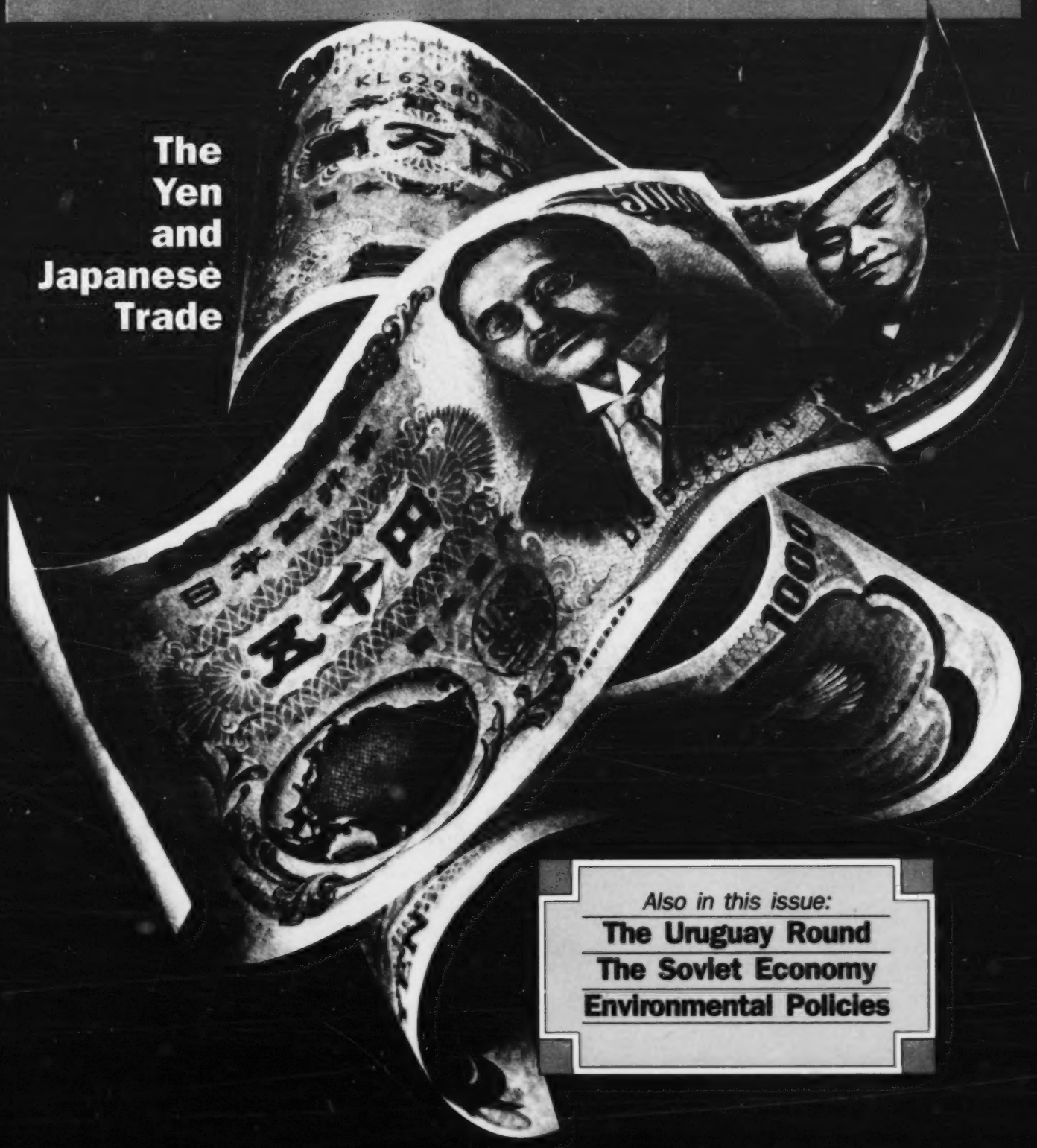
JUNE 1991

FINANCE & DEVELOPMENT

A QUARTERLY PUBLICATION OF THE INTERNATIONAL MONETARY FUND AND THE WORLD BANK

The Yen and Japanese Trade



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The Uruguay Round

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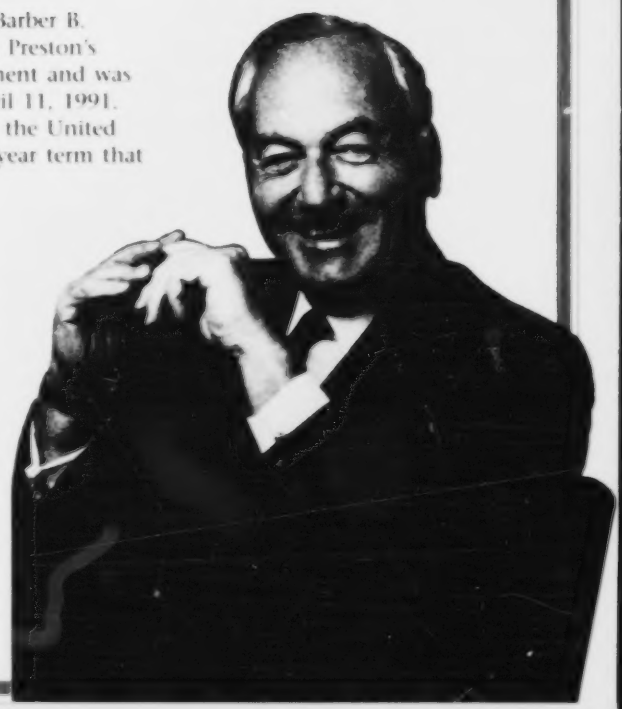
New World Bank President Selected

Lewis T. Preston will succeed current Bank President Barber B. Conable when the latter retires on August 31, 1991. Mr. Preston's candidature was proposed by the United States Government and was approved by the Executive Directors of the Bank on April 11, 1991. The President of the Bank is traditionally nominated by the United States, the largest shareholder, and is selected for a five-year term that can be renewed.

Mr. Preston, 64, was Chairman of the Board of J.P. Morgan and Morgan Guaranty Trust Company during 1980–91. He joined that firm when it was J.P. Morgan & Co. in 1951 soon after graduating from Harvard University. He served in the United States Marine Corps during 1944–46.

At J.P. Morgan, Mr. Preston was appointed head of the London office in 1966 and helped guide Morgan's participation in the then-emerging eurocurrency market. He was named Executive Vice President in charge of international banking in 1968, a position he held until 1976, when he was elected Vice Chairman of the Board and a Director. He became President in 1978 and Chairman two years later.



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READEX FICHE

The Internationalization of the Yen

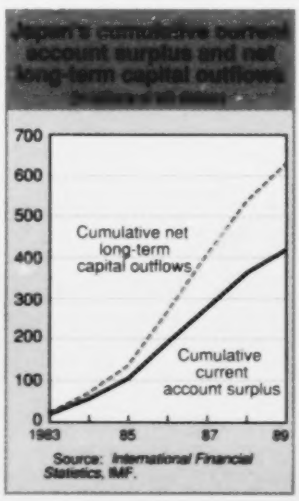
Although the Japanese yen is increasingly being used in international transactions, its use is still rather modest compared to the US dollar and the deutsche mark. Why?

George S. Tavlas and Yuzuru Ozeki

Japan's phenomenal economic success as the world's largest net creditor nation in recent years has provoked increasing demands that it accept broader international responsibility. Thoughts have turned to the possibility of a tripolar international monetary system, centered on the US dollar, the deutsche mark, and the Japanese yen. In such a system, other countries' currencies would be pegged to one of these three, and the three "core" currencies would float against each other. If this occurs, it would represent a substantial modification of the international monetary system. In this connection, some have suggested that a yen zone is emerging in Southeast Asia, whereby the increased use of the yen in Asian regional trade and financial transactions will contribute to its use as an anchor currency. Eventually, it is suggested, the outcome could be an Asian monetary union, with the yen serving a similar function to that of the deutsche mark in the European Monetary System.

A longer discussion on this topic, by the authors, IMF Working Paper (WP/91/2) entitled "The Japanese Yen as an International Currency," is available from IMF Publication Services, Washington, DC 20431, USA.

The rationale behind these views is apparently convincing. During 1983–89, Japan's cumulative current account surplus amounted to about $415 billion, making that nation the world's largest net international supplier of capital. Japan's net long-term capital outflows totaled about $620 billion, or some $205 billion more than the cumulative current account surplus (see chart). The balance has been financed mostly by short-term capital inflows. This situation, whereby Japan has emerged as a net supplier of long-term capital and a net borrower of short-term capital, is analogous in some respects to the position of British banks in the late 19th and early 20th centuries and to that of US banks in the post-World War II period. During those earlier episodes, British and US banks served as bankers to the world, exporting long-term capital denominated in sterling and the US dollar, respectively, and borrowing short-term capital from the rest of the world, also in terms of sterling and the US dollar. The willingness of foreigners to hold liquid liabilities denominated in sterling and the US dollar allowed those currencies to serve as international currencies, enhancing the liquidity of the international monetary system.



But contrary to the growing expectations of the role for the yen in the international monetary system, the implications for the yen's use in international transactions are mixed. Despite Japan's emergence as the world's largest net creditor nation, its capital outflows have not significantly facilitated the yen's internationalization because capital flows (both short-term and long-term) have been primarily denominated in currencies other than the yen. The evidence suggests that the share of international trade transactions denominated in yen is much smaller than the currencies of other large industrial countries. Fur-

ther, although there appears to be a relatively wider use of the yen as a regional currency in Asia, a yen-zone does not appear to be emerging. This article explains why this has happened, briefly discussing the necessary conditions underlying the international use of a currency and the role of Japan as an international financial intermediary.

International currency use

The uses of a currency in the international monetary system are analogous to, albeit more complex than, those of a national currency serving as a unit of account, means of payment, and store of value (see "International Currencies: The Rise of the Deutsche Mark" by George Tavlas, *Finance & Development*, September 1990). But whereas money is determined by government fiat in the domestic context, the choice of currencies to be used for international transactions is predominantly the result of market-determined processes. A major benefit is provided to a country whose currency becomes international. The issuing country derives seigniorage because the foreign claims built on it are denominated in its own currency. The country can, therefore, inflate away a portion of its nominal debt.

Several factors are necessary for a currency to be used internationally:

- As explained by Robert Mundell: "It is a fact of historical tradition that the top currency is provided by the top power" ("International Monetary Options," *The Cato Journal*, Spring 1983, page 189).
- There needs to be confidence in the value of a currency and, therefore, in the issuing nation's inflation performance. High and variable inflation generates nominal exchange rate depreciation and uncertainty.
- The country should have deep, open, and broad domestic financial markets. For example, a well-developed bankers' acceptance market contributes to the amount of trade financed in a currency, and thus, to trade invoicing in that currency. Correspondingly, active short-term (e.g., Treasury bill and commercial paper) markets contribute to the international demand for currencies, reflecting central banks' and other investors' preferences for liquid and safe financial instruments.
- The larger a nation's share of world exports, and the greater the extent to which those exports are denominated in the exporter's currency, the greater the demand for that currency by foreigners in order to pay for imports.

How has Japan performed on the basis of the above criteria? Japan's strong economic performance has allowed the nation to reemerge as a world economic and political power. Moreover, during the 1980s, Japan recorded lower consumer price inflation (at 2.5 percent per annum) than the other large industrial countries. In addition, Japan registered the third lowest level of inflation variability; at 2.2 percent, it was only slightly above that of Switzerland (1.8 percent) and Germany (2.1 percent). In recent years, Japan has carried through a number of measures to broaden its financial markets and to ease access to those markets by foreigners. Finally, during the 1980s, Japan's share of world exports rose by 2 ½ percentage points (reaching over 9 percent by the end of the decade), a larger increase than any other major industrial nation. Moreover, the direction of Japanese trade moved progressively toward Asian developing countries, paving the way for a larger regional use of the yen.

But certain problems remain. Despite recent efforts to liberalize Japanese financial markets, some areas are still subject to restrictions. For example, the Treasury bill market is not very active, the commercial paper market is not yet well developed, restrictions on some euro-yen investments remain, and trading in the government repurchases market is complex. Further, a number of factors have inhibited the yen's use in international trade, including: (1) Japan's share of exports to developed countries (particularly the United States) has increased and is likely to be denominated in these countries' own currencies; (2) Japanese exporters apparently have sought to denominate their trade in foreign currencies, while absorbing reduced profit margins during periods when the yen has been appreciating against those currencies, so as to maintain their market share. (When the currency of an exporting nation appreciates, its exports sales typically fall, because the appreciation raises prices in terms of the importing nation's currency. Japanese exporters, however, have often kept the foreign currency price of their exports unchanged, maintaining their sales level, but reducing their profits.); (3) the absolute level of Japanese exports to non-Asian developing countries fell during the 1980s, impeding the yen's use in trade, since developing countries tend to denominate their imports in foreign currencies; and (4) the bankers' acceptance market is not well-developed, making it difficult for Japanese firms to obtain trade financing in yen, hence curtailing the yen's use as an international unit of account and medium of exchange.

The pattern of a nation's capital flows shows how international currencies emerge, given the existence of the necessary conditions for international currency use described above. For example, if foreigners are acquiring short-term claims (i.e., supply short-term capital) in the currency of a particular country, it implies that the country possesses a large supply of short-term, relatively high-yielding financial instruments denominated in its own currency, the access to such instruments is relatively free from controls, and foreigners attach a relatively high degree of certainty to that nation's currency. Foreigners may demand short-term claims denominated in such a currency in part for liquidity and investment, or to pay for imports denominated in that currency. The nation's ability to attract short-term capital enhances its capacity to supply longer-term loans denominated in the nation's currency to the rest of the world.

If the nation meets these conditions, it can function as an international financial intermediary (i.e., a world banker). In conjunction with its role as a world banker, the growth of a nation's liquid liabilities can exceed that of its official reserves. As Charles Kindleberger and Peter Lindert noted with respect to the financial intermediary role of the United States in the 1950s, the nation's liquid liabilities were growing faster than its reserves, but it also had "such extensive longer-term, less liquid, assets abroad that the nation was a heavy net creditor to the rest of the world overall . . . . [Thus] the United States was acting as a financial intermediary, lending long and borrowing short" (*International Economics*, Homewood, Illinois, 1978).

Japan as world banker

Japan's role in the global allocation of capital flows has increased markedly in recent years, reflecting both its current account surplus—the counterpart for the nation's excess of saving over domestic investment—and its emergence as an international financial intermediary. In 1985, Japan became the world's largest holder of net external assets. Moreover, by the end of 1989, Japanese residents had accumulated net external assets of more than $290 billion, up from an average of about $30 billion in the first half of the decade. Almost 60 percent of Japan's foreign claims were long-term, while over 60 percent of the nation's liabilities were on the balance sheets of its banks and were short-term. Also—in line with the Kindleberger-Lindert view—the ratio of Japan's short-term liabilities to official reserves rose sharply during the course of the decade.

But has Japan's international intermediary function contributed to the willingness of foreigners to hold liquid liabilities denominated in yen? Not really. In contrast to the earlier cases of the United Kingdom and the United States, which borrowed short-term and lent long-term primarily in their own currencies,

commercial banks in Japan have been involved chiefly in maturity transformation of external funds—that is, borrowing short-term funds overseas in foreign currencies (mostly US dollars) and investing funds in long-term instruments overseas denominated in foreign currencies. Because the regulated Japanese financial market to some extent limited the rate of return on financial instruments (relative to rates available in some other financial centers), Japanese financial institutions have sought to invest substantial funds in other industrial countries in nonyen denominated instruments; in the late 1980s, about 75 percent of Japanese net long-term capital outflows were directed to industrial countries.

Japanese banks, as well as some nonfinancial corporations, have capitalized on their good credit standings in the international capital market, borrowing short-term funds to acquire long-term bonds overseas. Although external lending by Japanese banks increased during the 1980s, the share of yen-denominated lending—though rising—remained less than one third of the total throughout the decade. Further, direct investment to developing countries comprises less than 5 percent of Japan's net capital outflows, and most of that has been directed toward Asian developing countries. Thus, the processes underlying the emergence of sterling and the dollar as international currencies, whereby developing (and reconstructing) countries accumulated sterling- and dollar-denominated balances (for liquidity and investment, to pay for imports invoiced in those currencies, and to service loans for capital development denominated in those currencies), appear to be less significant in the case of the yen (except in the case of Asian developing countries).

Since Japanese banks lend largely in foreign currencies to take advantage of higher yields abroad, why do the banks also borrow primarily in foreign currencies? One reason, noted earlier, is the absence of a well-developed bankers' acceptance market and the fact that both exports and imports are predominantly denominated in currencies other than yen. Consequently, banks often borrow short term to make "impact loans" (foreign currency loans to domestic firms) to finance trade. Second, such borrowing possesses several advantages over yen-denominated borrowing in Japan. For example, the reserve requirement on all foreign-currency liabilities to nonresidents, regardless of duration or size, is lower than reserve requirements applicable to yen-denominated deposits and, unlike rates paid on other types of deposits, which are often regulated, interest rates on foreign currency deposits are set freely by the market. Third, the existence of prudential regulations limit banks' net foreign exchange exposure. Specifically, banks' combined net foreign exchange exposure cannot exceed a narrow limit (positive or negative) at the close of each business day. Thus, if banks lend in foreign currencies, prudential regulations prompt the banks to also borrow in foreign currencies.

Table 1
Yen denomination of Japanese foreign trade, by region
(In percent of total)

	1983	1987	1989
Exports			
All regions	**40.5**	**34.7**	**34.7**
North America	14.0	16.8	16.4
Western Europe	51.0	53.1	42.2
Southeast Asia	48.0	36.3	43.5
West Asia	52.0	36.3	...
Latin America	...	31.6	...
Africa[1]	...	58.4	...
Imports			
All regions	**3.0**	**11.6**	**14.1**
North America	5.0	9.4	10.2
Western Europe	13.0	27.1	27.7
Southeast Asia	2.0	13.9	19.5
West Asia	...	1.3	1.5
Latin America	...	8.4	8.3
Africa[1]	...	2.3	10.9

Source: Japanese Ministry of Finance.
[1]Excluding the Republic of South Africa.

Although Japan has been channeling funds to the rest of the world, that process has not necessarily been conducive to the yen's international use. Since foreigners have not been accumulating yen-denominated loans, they have had relatively little incentive to accumulate yen-denominated claims to pay back such loans. Further, the fact that the Japanese financial market has been (until recently) tightly regulated, and remains narrow and thin in some areas, has also discouraged the holding of short-term, yen-denominated claims by foreigners.

The yen's use . . .

As an invoicing currency in trade. Recent data trends confirm the expectation that the yen's use as an international currency, although increasing, is still rather modest. The proportion of Japan's exports denominated in yen rose from 17.5 percent in 1975 to 40 percent in 1983, before declining to about 35 percent in the second half of the 1980s. By contrast, about 96 percent of US exports are denominated in US dollars, while national currency invoicing of exports by the major European countries is in the range of 40–80 percent (with Germany having the highest proportion). The share of Japanese imports denominated in yen rose steadily, from less than one percent in 1975 to about 14 percent in 1989, but was still well below the proportion of imports invoiced in the local currencies of the United States (85 percent) and the major European countries (27 percent to 52 percent) at the end of the 1980s.

In regional trade transactions. Yen-invoicing of exports to Southeast Asia declined over 1983–89 (see Table 1), but yen-invoicing of imports from Southeast Asia rose sharply. Nevertheless, the proportion of imports invoiced in yen (at 20 percent) from Southeast Asia does not suggest that a key regional role is emerging for the yen in Asian trade transactions.

As a medium of exchange. Turning to the use of the yen in international financial markets, the yen's share of external bank loans rose sharply until 1985, reaching 18.5 percent, but subsequently declined to 5.5 percent—about the same as its share during the first part of the 1980s. Regarding external bond issues, the share of the yen rose from less than 6 percent in the first part of the 1980s to over 8 percent in the second half of the decade (although the yen's share declined in 1988 and in 1989). Finally, the share of the yen in the denomination of eurocurrency deposits rose from under 2 percent in the early 1980s to 5.5 percent in 1989. Since 1987, the yen's share of each of these three interna-

George S. Tavlas
a US citizen, is a Senior Economist in the IMF's Treasurer's Department. He holds a PhD from New York University, and has worked at the US Department of State and the OECD.

Yuzuru Ozeki
a Japanese citizen, is an Economist in the IMF's Treasurer's Department. From 1982 to 1984, he worked for the Japanese Ministry of Finance on external assignment from the IMF. He holds a PhD from the University of Hawaii.

Table 2
Official holdings of foreign exchange, 1980–89[1]
(In percent)

	1980	1983	1986	1989
Japanese yen				
All countries	4.4	5.0	7.9	7.9
Selected Asian countries	13.9	15.5	22.8	17.5
US dollar				
All countries	68.6	71.4	67.1	60.2
Selected Asian countries	48.6	55.7	48.4	56.4
Deutsche mark				
All countries	14.9	11.8	14.6	19.3
Selected Asian countries	20.6	16.7	16.7	15.2

Sources: IMF *Annual Report, 1990*, and staff estimates.
[1]End-of-year data. The data for 1989 are preliminary and could be revised.

tional markets has declined.

As a currency used by official agents. The importance of currencies as international units of account, medium of exchange, and stores of value can also be gauged from their use as official reserves. The yen's share of foreign exchange holdings has consistently been higher in Asian countries than in the world at large in recent years (see Table 2). Between 1980 and 1989, the yen's share of official reserve holdings among Asian countries rose sharply; in the late 1980s, about 18 percent of such holdings were in yen. However, a far greater proportion (56 percent) was held in US dollars and a substantial share (15 percent) was held in deutsche mark. By contrast, European countries hold about 25 percent of their reserves in deutsche mark and only about 5 percent in yen. Thus, the data indicate that the yen's regional use by official agents, though growing, is considerably less than the use by official agents of the deutsche mark within Europe.

Conclusion

The yen's emergence as an essential component of the international monetary system is directly related to its role as a key currency within Asia. Although the yen's use as a regional Asian currency has increased in recent years, the data pertaining to both Japan's trade invoicing and to official currency holding by Asian countries indicate that a yen-zone does not appear to be emerging. Whether a yen currency bloc will emerge in the foreseeable future depends importantly on the openness, the breadth, and depth of the Japanese financial system. In this connection, recent measures to deregulate Japan's financial markets and to free the nation's capital flows augur well for the yen's international use. The implementation of additional measures will allow Japan to emerge as a world banker in the traditional sense, so that Japan's capital outflows and inflows are conducted increasingly in terms of the yen, enhancing that currency's international and regional status. ■

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The Changing Nature of Japanese Trade

The appreciation of the yen after 1985 dramatically shaped the structure of Japanese trade flows, with a spectacular rise in manufactured imports

Robert Corker

In recent years, Japan's current account surplus has drawn enormous interest, becoming the rationale, at times, for calls for greater protection against Japanese exports. The assumption has been that Japanese trade flows are not responsive to market signals. Otherwise, the argument goes, Japan would not have been able to amass persistent annual current account surpluses of around $80 billion in the second half of the 1980s.

But, in actuality, the growth of Japanese exports in *volume* terms during this period was very slow by historical standards, while import volume growth surged—a significant departure from past trends. Indeed, the large surpluses entirely reflected a shift in the terms of trade, owing to lower imported oil prices and a sharp appreciation of the yen. This article examines how Japanese trade flows have changed since 1985 and why, highlighting the role of the yen and the unprecedented burst of foreign direct investment by Japan. It also tries to answer the question: Has import growth been low in light of the rapid appreciation of the yen?

Developments in exports

Japan is the world's third largest exporter (after the United States and Germany), supplying nearly 10 percent of total world exports in 1989. Over the last three decades, this share has increased dramatically, reflecting mainly the rapid growth of Japan's economy as a whole (see Chart 1). But in terms of *real* market penetration—that is, the ratio of Japanese exports to partner countries' total manufacturing imports adjusted for price changes—exports remained fairly constant, on average, during most of the 1970s and 1980s, with increases largely confined to the 1960s, when Japanese economic development was taking place at a rapid pace.

Even so, real market penetration has fluctuated quite widely since the early 1970s, closely tracking changes in Japanese competitiveness. In general, when competitiveness—measured either by relative unit labor costs or export prices—improved, market penetration rose, only to decline when the competitiveness gain was reversed. The most pronounced and long-lived decline occurred when the yen appreciated sharply after the Plaza Agreement of September 1985, which set the stage for coordinated foreign exchange intervention aimed at curbing the rise of the dollar. During 1985–89, Japanese real export growth was the slowest for any five-year period of the past three decades.

Traditionally, Japanese exports have been composed almost entirely of manufactured goods, concentrated in relatively few commodity categories. But changes in the shares of exports by end-use—industrial supplies, consumer goods, and capital goods—have been underway for some time, reflecting a growing specialization of Japanese industries in more sophisticated, high quality products, and changing comparative advantage (see Table 1). In 1965, industrial supplies accounted for the largest share of exports, followed by capital goods and consumer goods. But by 1985, the emphasis had switched, with the latter two taking up over 75 percent, and the share of industrial supplies slipping to 20 percent.

Behind these movements were the successes and failures of a few key products. The declining share of industrial supplies in the 1960s reflected, in large part, the decreasing importance of textiles exports as Japanese exporters lost market share to producers in lower-cost countries. For a while, this category benefited from the rise of the iron and steel industry in the second half of the 1960s, but in the 1970s, this industry also fell victim to increased foreign competition. Gradually, the export of trucks, machine tools, and industrial and commercial equipment, as well as automobiles and other consumer durables, gained prominence. The export of motor vehicles, for example, reached its peak in 1985—with over seven million units, of which five million were passenger cars—accounting for 20 percent of all exports.

The decline in the share of industrial supplies continued in the second half of the 1980s, as the rising yen contributed to a further weakening of metals exports and squeezed the already small textiles sector. At the same time, exports of capital equipment continued to grow in importance, led by new technology-intensive products, such as data processing machines, integrated circuits, and telecommunications equipment.

But unlike in the past, the share of consumer goods declined, primarily reflecting a weakness in non-automobile exports (although passenger car exports dropped in numbers, the total share was maintained, in part because voluntary export restraints to major foreign markets helped tilt the composition toward higher quality, higher priced units). The main cause was a loss in cost competitiveness, particularly to producers in the newly industrializing economies (NIEs) of

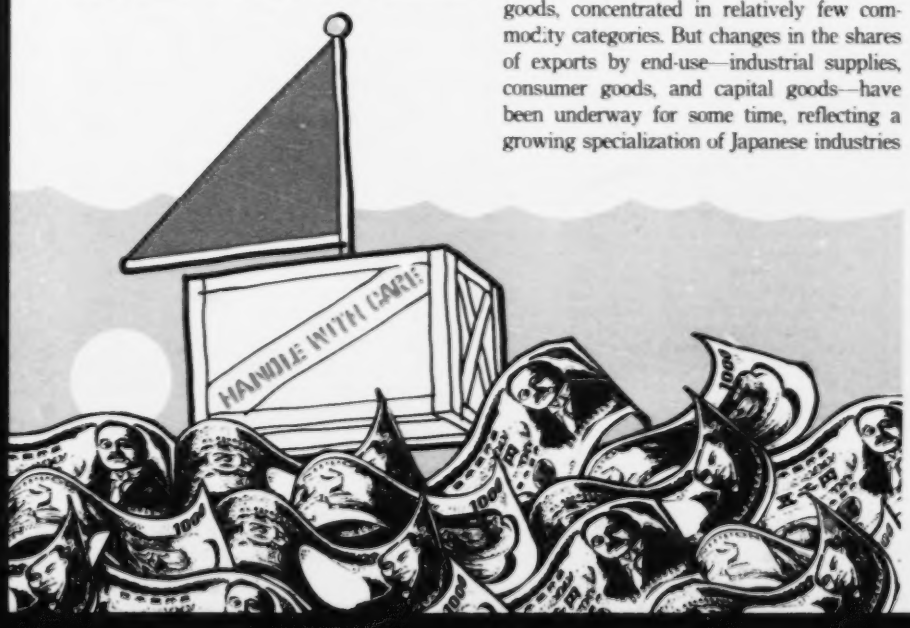
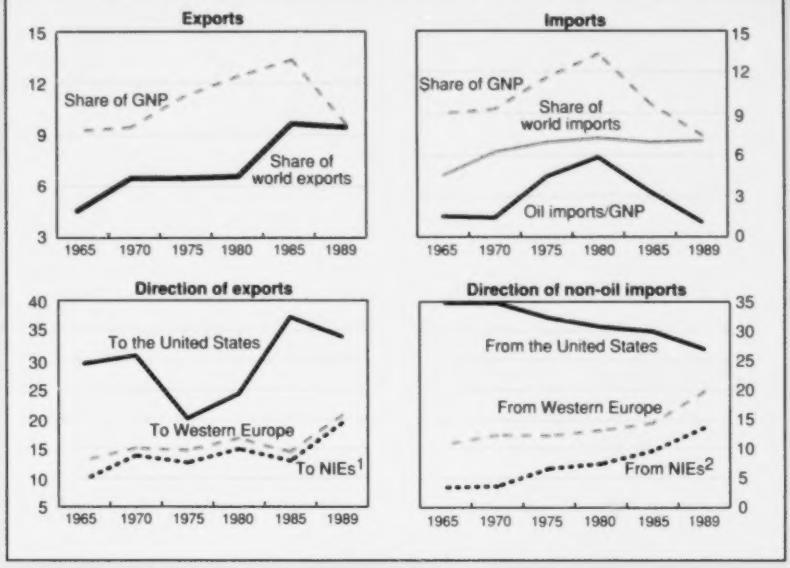


Chart 1
Trends in Japanese exports and imports, 1965–89
(In percent)



Source: See Tables 1 and 2.
[1] Hong Kong, the Republic of Korea, Singapore, and Taiwan Province of China.
[2] Excluding Singapore.

Asia—Hong Kong, the Republic of Korea, Singapore, and Taiwan Province of China. While the emergence of new Japanese exports, such as videocassette recorders, compact disc players, and video cameras, initially helped, the appreciation of the yen boosted the competitiveness of similar products assembled outside Japan.

Indeed, the high value of the yen, along with a desire to overcome foreign protectionism, precipitated a surge in Japanese foreign direct investment (FDI), as Japanese producers sought cheaper overseas production centers (see Chart 2). Until the second half of the 1980s, Japanese FDI had lagged behind that of other industrial countries, amounting to the equivalent of only 1–2 percent of total private domestic fixed capital formation; this compares with a US average of nearly 5 percent in the 1970s. But in 1986, Japanese FDI began to soar, accumulating to $112 billion in 1986–89, or roughly 4 ½ percent of private domestic investment—close to the US total.

While much of the overseas investment has been in the financial and real estate sectors, a growing proportion has been directed toward the manufacturing sector. One of the most prominent examples has been in the US automobile industry—between 1985 and 1989, production of Japanese cars in the United States rose from under 200,000 units to over 750,000 units, or nearly 30 percent of all Japanese cars sold in that country.

Not surprisingly, this new phenomenon of a high level of FDI became a channel for a number of changes in the nature of Japanese trade flows. Additional demands surfaced for Japanese physical capital to set up overseas operating plants; at the same time, output from these plants, when it came on stream, began to displace exports of consumer goods made in Japan. On the regional level, there was a sharp rise in exports to the NIEs, which were large recipients of Japanese FDI in this period, along with Europe and the United States.

Developments in imports

As with exports, Japanese imports now take up a substantial share—7 percent in 1989—of the world total, a sharp increase from the only 1.5 percent level in 1950. Again, the growth of the Japanese economy accounts for a large part of the underlying increase, although the value of imports has fluctuated quite widely from year to year due to price and currency changes. For example, as oil prices increased sharply in 1973–74 and again in 1979–80, the share of imports in GNP jumped to 13.25 percent in 1980 from around 10 percent in the 1960s and early 1970s. Then in the 1980s, imports declined sharply as a proportion of GNP, owing to weaker oil prices and appreciation of the yen (see Chart 1).

But if the effects of oil and yen movements are removed, real import penetration—measured as the share of imports in total domestic demand adjusted for price changes—is seen to have changed little, on average, from 1975 to 1985, whereas in the second half of the 1980s, such penetration increased markedly. The largely unchanged picture during 1975–85 reflected offsetting trends in manufactured and nonmanufactured imports—real manufactured imports grew faster than overall domestic demand, while real nonmanufactured import penetration declined. Furthermore, although nonmanufactured import growth picked up only modestly after the Plaza Agreement, manufactured import

Table 1
Changing composition of Japanese exports, 1965–89
(In percent)

	1965	1970	1980	1985	1989
Capital goods	**27.7**	**31.1**	**40.1**	**46.5**	**54.3**
Of which:					
Technology-intensive products[1]	...	...	...	5.7	9.4
Consumer goods	**21.3**	**25.7**	**28.5**	**31.0**	**25.3**
Of which:					
Passenger cars	1.4	4.7	12.4	14.5	14.1
Industrial supplies	**45.4**	**38.3**	**28.5**	**20.4**	**18.2**
Of which:					
Textiles	12.3	8.4	3.7	2.7	1.9
Iron and steel	15.3	14.7	11.9	7.7	5.4

Source: Customs clearance data for exports (f.o.b.) taken from Japan Tariff Association, *The Summary Report on Trade of Japan*.
[1] Data processing machines, integrated circuits, and telecommunications equipment.
... Data not available.

Table 2
Changing composition of Japanese non-oil imports, 1965–89
(In percent)

	1965	1970	1980	1985	1989
Capital goods	**10.5**	**13.7**	**11.4**	**13.4**	**14.9**
Of which:					
Electric machinery	1.5	2.8	3.2	4.2	5.6
Consumer goods	**2.3**	**3.7**	**6.4**	**7.3**	**16.2**
Of which:					
Passenger cars	0.4	0.3	0.6	0.6	2.2
Textiles	0.2	0.8	2.3	2.6	5.3
Non-oil industrial supplies	**60.9**	**62.7**	**61.6**	**54.8**	**47.3**
Of which:					
Crude materials	41.6	37.8	27.2	18.4	15.7
Food and drink	**25.8**	**19.0**	**20.4**	**19.8**	**17.7**

Source: Customs clearance data for imports (c.i.f.) taken from Japan Tariff Association, *The Summary Report on Trade of Japan*.

growth surged, substantially redressing the traditional compositional bias against manufactures (see Table 2).

Until recently, imports had been largely composed of nonmanufactured goods—mostly commodities—reflecting Japan's scarcity of natural resources, with manufactured goods amounting to a comparatively small proportion of GNP by industrial country standards, despite low tariffs and few formal trade barriers. This has provoked much (as yet unresolved) discussion as to whether Japan imports an "abnormally" low amount of manufactured goods. In particular, the concern centers on the low degree of intra-industry trade—other countries produce, export, and import the same commodities to a much greater extent than Japan does. But because there is little theoretical or intuitive basis for this type of trade, such a case is difficult to prove.

One important reason for the relatively strong growth in manufactured imports since 1975 has been the changing sophistication of the Japanese economy and, notably, a shift away from materials-processing activities. Taking the earlier examples of the textiles and iron and steel industries, the demand for imported textile raw materials and iron ore steadily declined and was replaced, first, by imports of textile materials and iron and steel, then subsequently by finished garments and steel products. Thus, the more rapid growth of manufactured imports reflected relatively strong demand for manufactured industrial supplies, as well as capital and consumer goods. In addition, the relative importance of nonmanufactured imports has been eroded since 1975 by energy conservation in the wake of higher real oil prices.

The surge in manufactured import growth in the second half of the 1980s represented an accentuation of these past trends. The growth in consumer goods imports was, in particular, remarkable, quadrupling in volume terms between 1985 and 1989. Significant foreign penetration was achieved in several markets—notably, automobiles and electronic consumer durables—that had previously been supplied almost entirely by domestic producers. Imports of passenger cars, for example, rose to nearly 200,000 units in 1989, compared with 50,000 in 1985. The rise in consumer goods imports partly reflected the effects of FDI, as Japanese producers shifted some of their production facilities offshore; imports from the NIEs increased particularly rapidly in this period.

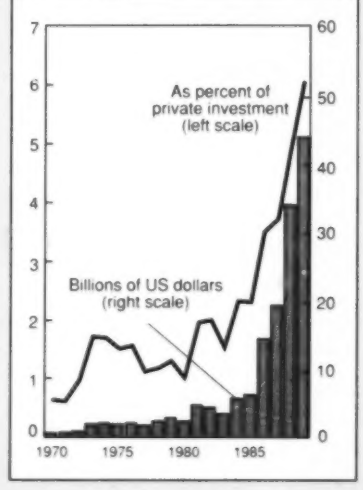
Unexpected changes

Clearly, the second half of the 1980s both accentuated past trends and brought forth some new developments. But were these changes in keeping with historical patterns? Or were there some surprises? To answer these questions, econometric tests were run to determine how imports and exports normally behave following exchange rate changes and alterations in domestic and foreign income. Then these results were used to estimate how the historical behavior could explain developments after 1985.

On the export side, the study shows that for total export volume, the stagnation in 1986–88 was a normal response to the large loss in competitiveness, although export growth should have rebounded somewhat more strongly than it did in 1989 (see Chart 3). For capital goods exports, actual volume growth was a little stronger than predicted, particularly in 1987–88, although growth was a little slower than expected in 1989. By contrast, consumer goods export volume was weaker than anticipated for most of the 1986-89 period. While the yen had the expected effect of depressing the level of exports, it also had a somewhat greater-than-usual impact on export composition. The direction of these compositional changes was consistent with the surge in Japanese FDI.

As for imports, the results suggest that a large part of the surge in manufactured goods in the second half of the 1980s cannot be explained by developments in the domestic and world economic environment. While the yen's appreciation and strengthening of domestic demand would have stimulated manufactured

Chart 2
Surge in foreign direct investment, 1970–89



Source: Japanese balance of payments data.

Robert Corker
a UK citizen, is an Economist in the IMF's European Department. Until recently, he was a desk officer for Japan in the Asian Department.

Chart 3
Actual versus predicted exports and imports, 1984-89
(Index, 1985 = 100)

Source: IMF staff estimates.
¹Excluding nonmonetary gold.
Note: Predicted values in the shaded area refer to regression-based extrapolations of historical trends that take into account actual developments in income and relative prices in the period 1986-89.

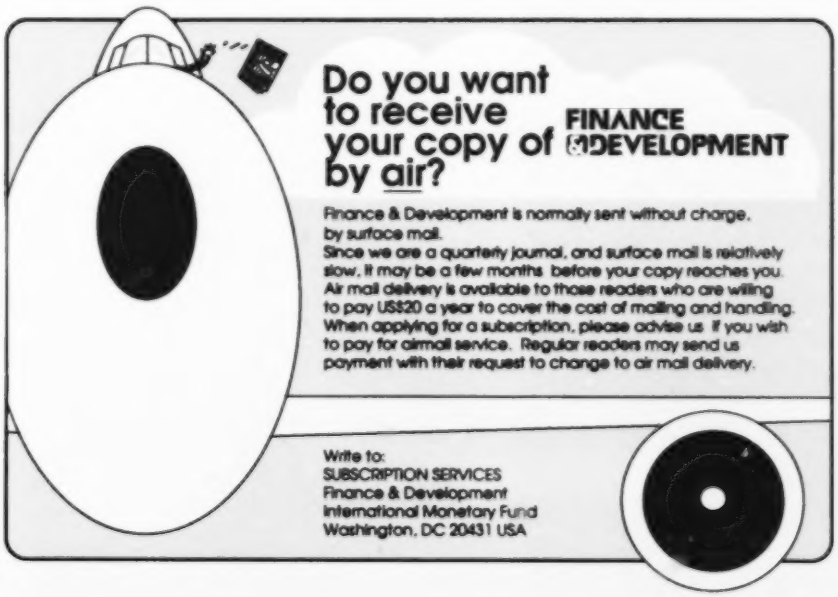
import growth, the response was much greater than historical experience would have suggested: actual manufactured imports greatly exceeded predicted levels. For nonmanufactured imports, demand was a little weaker than expected, although this result may reflect problems in properly accounting for nonprice factors, such as energy conservation and quotas on certain agricultural products.

An analysis of imports by end-use shows that the underprediction of the strength of manufactured import demand stemmed from the surge in consumer goods imports, which was well in excess of what might have been expected on the basis of developments in overall consumer demand and relative import prices. However, the rapid growth in capital goods imports was largely in line with historical trends and reflected the strong growth in Japanese investment in this period.

Conclusion

During the second half of the 1980s, the high value of the yen exerted a strong influence on the level and structure of Japanese trade flows. The ensuing loss of competitiveness acted as a forceful brake on exports and encouraged a surge in manufactured import demand. The loss of export competitiveness was felt most keenly in the consumer goods sector, whose share of exports declined in contrast to past trends, while capital goods exports remained comparatively buoyant. Import expansion was led by spectacular growth in consumer goods categories, well in excess of their usual response to lower relative import prices and the overall strength of domestic demand. Unusually large outflows of Japanese foreign direct investment, as well as "threshold" effects—that is, the appreciation was viewed as sufficiently large and permanent to make it profitable for importers to undertake the costly exercise of attempting to penetrate a new market—appear to have provided two of the vehicles through which the exchange rate elicited these particular changes.

Thus, far from being unresponsive to market signals, Japanese trade flows adapted in a remarkably flexible way to the economic environment of the late 1980s. Whereas this evidence of flexibility will not satisfy the hardest of critics of Japan's trade practices, it certainly flies in the face of popular views of an economy that is closed to foreign goods. ■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The Uruguay Round

Since the end of the Second World War, seven rounds of multilateral trade negotiations have been launched and successfully completed, under the auspices of the General Agreement on Tariffs and Trade (GATT). The eighth, known as the Uruguay Round, was formally begun in September 1986, shaped by the objectives set forth in the January 1986 Punta del Este Ministerial Declaration.

The broad goal of all the rounds has been the same—to promote growth and development through the removal of trade distortions, and the development of a more open, predictable, and durable multilateral trading system—although the focus of the negotiations has sometimes differed. The first six rounds concentrated almost exclusively on reducing tariffs, while the Tokyo Round (1973–79) moved on to tackle nontariff barriers, and the Uruguay Round embraces new areas such as services, intellectual property rights, and trade-related investment. The breadth of this latest round, originally scheduled to be concluded at a ministerial meeting in Brussels in December 1990, required important political breakthroughs to resolve obvious difficulties, a task that could not be completed in the time available. As a result, talks were suspended in Brussels; however, a basis for their resumption was found in early 1991, reviving hopes that before too long, a successful conclusion would be forthcoming.

Given the importance of the trade talks for countries all over the world, *Finance & Development* decided to take a look at why the Round ran into so many seemingly intractable problems and what the shape of a final agreement might be.

Promoting international trade is one of the founding purposes of both the IMF and the World Bank. Indeed, as IMF Managing Director Michel Camdessus told the December 1990 ministerial meeting in Brussels when he urged participants to summon up the political will to quickly bring the talks to a successful conclusion: "Your success will be an antidote to the poison of protectionist pressure, that otherwise would contribute to a longer and deeper slowdown and possibly a serious deflationary spiral in economic activity in the industrial countries. The stakes are no less high for the developing countries and for the economies in transition."

Multilateral trade negotiations

1. Geneva negotiations, 1947
2. Annecy negotiations, 1949
3. Torquay negotiations, 1950–51
4. Geneva negotiations, 1955–56
5. Geneva negotiations ("Dillon Round"), 1959–62
6. Geneva negotiations ("Kennedy Round"),1963–67
7. Geneva negotiations ("Tokyo Round"), 1973–79
8. Geneva negotiations ("Uruguay Round"), 1986–

What is at Stake in the Uruguay Round?

After four years of multilateral trade negotiations, progress has been made on resolving key issues. But countries still need to confront certain domestic policy issues for the Round to be successful

H. B. Junz and Clemens Boonekamp

In late February 1991, the Uruguay Round of multilateral trade talks was relaunched, as a result of an understanding among the participants that the critical agricultural issues would be addressed explicitly and with reasonable flexibility. The much troubled talks—rather than concluding as scheduled in Brussels in December 1990—had been suspended over this issue. But even if agriculture had not been a sticking point, it would not have been easy to achieve consensus on a number of other outstanding issues. Hence the decision to resume the four-year trade round without setting a specific time frame for a conclusion. Indeed, the recognition was widespread that for the 108 participating nations to reach agreement, it would require months, not weeks.

At stake is an agreement that would bring a material increase in world trade and, thereby, growth. In Brussels, a package appeared in sight that would (1) reduce tariffs significantly, including those on higher value-added production; (2) gradually bring trade that had moved outside the multilateral framework, including textiles and clothing, back into the GATT; (3) bring discipline to the trade-related aspects of intellectual property; (4) improve the rules and dispute settlement system of the GATT; and (5) provide, at least, a framework for trade in services. Other questions, such as those on trade-related investment measures (discussed below) and the functioning of the GATT system—including the GATT's relationship with the IMF and the World Bank in achieving greater coherence in policy formulation—probably could have fallen into place with agreement elsewhere. In fact, this package would have gone a considerable way toward meeting the objectives set at Punta del Este, Uruguay, in September 1986 (see "The Uruguay Round: Revitalizing the Global Trading System," by Naheed Kirmani, in *Finance & Development*, March 1989).

But achieving these objectives involves confronting and solving deep-seated political and economic problems that beset most participating countries, large and small, developed and developing—a challenge that policymakers in many countries have found most difficult. Not to do so, however, raises the risk of yet another breakdown in the talks, and some doubt that the Uruguay Round could survive another stoppage. This article (based on a longer background paper by the authors and Grant Taplin) looks at the underlying problems and the progress up to early 1991 on key negotiating issues, as well as the prospects for success and the dangers of failure.

Underlying problems

From the very beginning of the Uruguay Round, there have been signs that many countries were not yet ready to address the problems that had given rise to a network of subsidies and noneconomic production in farming, managed trade in various sectors, defensive attitudes toward the establishment of foreign firms, and a host of other distorting policies. This difficulty, in fact, was behind the numerous setbacks: it caused a four-year interval between initial efforts to get agreement on the need for a Round in 1982 and the adoption of its terms of reference in 1986; it brought the negotiations to a four-month halt at the time of the mid-term review—from December 1988 to April 1989; and it derailed them in Brussels in late 1990.

These economic and political problems find a focal point in agriculture, where policies in many countries involve the whole complex of basic reasons that drive departures from market solutions—such as social, political, and cultural concerns, and more recently, environmental ones (see accompanying Guest Article by Sylvia Ostry). Some, or all, of these considerations also play into other areas of the negotiations, particularly where there have been large changes in the size and location of production capability. At root are internal market rigidities that stem from delays in dealing with changing economic realities.

In recent years, however, developed and developing countries alike have begun to reappraise their economic strategies, increasingly opting for a basic policy stance that looks to market signals for guidance and seeks to reduce, if not eliminate, government intervention. In keeping with this outlook, many governments have included market opening and trade liberalization as a major element in their economic programs, although in many industrialized countries, the empha-

sis was more on domestic deregulation. This shift should have greatly enhanced the trade negotiating environment, but countries have found it extremely difficult to bring these attitudes into the Uruguay Round, where each liberalizing measure is viewed as a "concession" requiring a counterconcession. This has led to the question whether the agenda was too ambitious, and therefore, an impossible task from the outset. The answer then and now is that the Round's ambition sprang from necessity—a necessity to reverse trade policy trends that tended to export the effects of delays in difficult policy decisions.

Paradoxically, however, despite the danger signals of increasing defensive actions in some sectors and concentration of economic power or market management in others, domestic and international markets remained dynamic during the 1980s. This dynamism can be traced, in part, to the vigorous development of trade sectors that have benefited from deregulation of domestic markets coupled with technological advances that tended to globalize business activity, particularly in services. Consequently, part of the support for the Round may be related to the extension and preservation of these dynamics. In this respect, while there is broad support for eliminating barriers and expanding trade opportunities, there remain basic tensions between the interests of "sunrise" and "sunset" (or emerging and declining) industries, and it is often the latter that capture the greatest attention. Thus, the Round's issues are integral to the domestic policy debate—and this sets it apart from previous trade talks, which addressed mainly levels of border protection and its rules.

Further complicating matters have been the numerous links—both tactical and functional—between issues, reflecting their complexity, the breadth of the Round's objectives, and the array of special interests. The decision early on to create 15 separate negotiating groups met the need for various negotiating aspects to have their own forum, but now, in moving to concrete results, the linkages again dominate (the 15 groups were reduced to seven in late April, 1991). At the tactical level, negotiating a balanced package means that each negotiator will agree to some points contingent upon agreement in other areas. For example, some more efficient agricultural producers have held back agreement in some areas awaiting an agricultural package. Functional linkages relate, for example, progress in product-based groups, such as textiles, to improving those rules that, for lack of clarity and difficulty of application, have pushed these sectors outside the GATT to begin with.

Market access issues

Agriculture. The need for reform of agricultural trading policies is not in question in the Round. This sector is riddled with economic distortions that have achieved a life of their own, with some farmers being paid not to produce, and others stimulated to increase production, sometimes within the same region. The result has been rising agricultural support costs, which burdened taxpayers and consumers in the Organization for Economic Co-operation and Development (OECD) countries alone to the tune of almost $300 billion in 1988, equivalent to about 3 percent of OECD consumption expenditure and 10 percent of savings in that year. Not surprisingly, direct and indirect import barriers proliferated under these policies and export subsidies skyrocketed. But reform moves meet serious political obstacles, in part because the subsidies enable efficient producers to reap large economic rents, while the inefficient ones enjoy political leverage well beyond their numbers, owing largely to cultural and social reasons.

The United States—supported in the main by the Cairns Group of agricultural exporters (Argentina, Australia, Brazil, Canada, Chile, Colombia, Fiji, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand, and Uruguay)—has sought large reductions in export subsidies (phasing them down by 90 percent by the year 2000), with accompanying commitments to reduce internal price supports and import barriers. They argue that improved market access and better world market conditions require both direct remedies and a substantial, continuing effort. Trade developments of the past two decades seem to support this view: for example, the EC's share of world exports of agricultural products rose from 24 percent in 1970 to 36 percent in 1988, just below the almost 38 percent held by the Cairns Group and the United States together over that period. Although it is not possible to quantify the effects on the structure of trade of lower levels of EC protection, it is still illuminating that a stable export share for the EC between 1970 and 1988 would have implied an increase in the exports of other suppliers of some $43 billion.

The EC's original offer—supported in part by Japan, the Nordic countries, and Switzerland—was based on a reduction in the level of total assistance (by 30 percent over a ten-year period from its 1986 level). This would narrow the gap between world and domestic prices, but the latter would continue to be cushioned by a fixed margin of Community preference and a variable buffer to protect against exchange rate fluctuations and world market price changes. Within the overall level of assistance, protection would be "rebalanced" by raising import barriers for certain products (e.g., oilseeds), as barriers are lowered on others.

Although some flexibility in negotiating approaches emerged in Brussels, including the possibility of a specific commitment on export subsidies, the absence of a dynamic that would assure permanence of reductions in export support and of increases in market access beyond 1995 was a major element in the suspension of the negotiations in December. The basis for resumption was provided by confirmation that specific commitments in each of the areas of agricultural support—domestic support, market access, and export subsidies—would be part of the negotiations. At the same time, EC efforts to review fundamentally the workings of its internal support system, even if unrelated to the trade talks, has helped provide a better basis for a longer view. Nevertheless, a complicating factor may well be the lengthy nature of such a review process.

Textiles and clothing. For the past three decades, trade in this area has been subject to special restrictions as the main importers (industrial countries) have asserted the need for protection against "market disruption" by lower-cost suppliers (usually developing countries). Thus, under the current Multifibre Agreement (MFA), some 50 percent of textiles and clothing trade is regulated through bilateral quotas in a continued breach of the GATT's nondiscrimination principle. With developing and Eastern European countries relying on these goods for almost 40 percent of their manufactured exports, and with potential higher value-added production hampered by fears that successful investment would lead to a broadening of quotas, developing countries, in particular, insist that integration of the sector into GATT be based on a phase-out of the MFA.

Under the draft text, the MFA would be phased out in three stages over a ten-year period. But only 45 percent of covered products would be liberalized before the final stage, and countries could choose the timing for bringing specific products under the GATT. Consequently, liberalization of the most sensitive products could be left to the end, raising doubts about achieving full integration into the GATT by the specified terminal date. Further, during the phase-out, countries could introduce discriminatory restrictions on those products not already made subject to the GATT, or on which they do not have existing bilateral arrangements.

All these elements, which reflect strong vested interests in the status quo, especially in the United States, make it unclear that the

phase-out will be trade-expanding, particularly in the initial stage; but bringing MFA trade back under GATT means *de facto* acceptance that bilateral sectoral management of trade is at odds with multilateral rules, thereby halting the drift in that direction. The latter, however, as well as implementation of the phase-out, critically depends on strengthened GATT rules, particularly on antidumping and trade in counterfeit goods, and on the readiness of developing countries to open their own markets.

Traditional market access issues. Progress in other market access areas—tariffs, nontariff measures (NTMs), and natural resource-based and tropical products—is closely connected to progress in agriculture. As it is the overall incidence of border protection that matters, few countries are ready to commit to lower NTMs until they have a clearer view of the outcome in tariffs, and vice versa. Willingness to reduce NTMs also depends on the results in the rule-making areas (e.g., safeguards).

Negotiations on tariffs have proved difficult, in part because previous trade rounds reduced average tariff rates on manufactures in industrial countries to about 5 percent, leaving most industrial participants with tariffs concentrated in sensitive areas. Moreover, the low averages frequently disguise both tariff peaks and tariff escalation (where tariff rates for a commodity rise with the degree of processing)—both key issues for developing countries. A substantial package may be within sight, however, especially if it incorporates the US offer of a so-called "zero-for-zero" option, under which industrial countries would reduce some 2,000 industrial tariff lines to zero or very low rates. This still presents problems in some sensitive areas, but could well be accepted in others, including chemicals, pharmaceuticals, and, perhaps, steel. A positive outcome could also result in a sizable increase in bindings (a legal commitment not to raise a specific tariff above a given level) by developing countries and in significant reductions in their tariffs. This would support the permanency of the recent trade liberalization in many developing countries and be a major step toward the active partnership sought by the industrial countries.

Rules

In recent years, trade expansion and, consequently, investment, has been deterred not so much by tariffs as by numerous measures that were largely of a unilateral and bilateral nature, of dubious GATT legality, and implemented with little predictability. Bringing clarity and consistency to trading rules, along with a credible dispute settlement mechanism, therefore, is key to achieving the objectives of the Round. But the need to balance the rights and obligations of signatories, and the imperative of not losing the objectives of consistency and appropriate tightness in the process, has created great difficulty. Thus, in the search for compromise in the important areas—safeguards, antidumping, and subsidies—the price for bringing all trade back into the GATT may turn out to be high in terms of allowing relatively easy access to defensive action. The limited effect of the commitment not to use measures inconsistent with the GATT during the negotiations and, indeed, to roll them back so that they could be eliminated by the Round's end, point in that direction. By contrast, there has been progress toward a more credible dispute settlement mechanism.

Bringing clarity and consistency to trading rules, along with a credible dispute settlement mechanism... is key to achieving the objectives of the Round.

Safeguards. The need to incorporate temporary protection of industries injured by import competition into the system is evident. Since the mid-1970s, the perceived inadequacy of the safeguard rules has led to their being increasingly by-passed through recourse to bilateral actions, such as voluntary export restraints, that restrict imports of a product from selected sources. Re-establishing GATT control over such actions has been central to the safeguards negotiations, with the key issue being whether actions should be applied selectively. The EC has argued for selectivity, while smaller industrial and developing countries prefer nondiscrimination, as they fear that selective measures both increase their vulnerability to pressure from major traders and can lead to market-sharing arrangements. Recently, the EC proposed a modified form of selectivity—"modulated" quotas—covering all suppliers, but the degree of restraint would vary according to the perceived contribution of individual suppliers to disruption of domestic industry.

The other elements of a safeguards agreement seem clear, although their implications are less so. The critical points include the following: (1) countries could assert injury to domestic producers and take measures, initially largely beyond multilateral questioning; (2) measures could be in place for five to eight years, and trading partners could not initiate compensation or retaliation procedures during the first three years at least; (3) measures would be price-based, in principle, but "modulated" quotas could change this; and (4) measures would be eased progressively and subject to multilateral monitoring and dispute settlement procedures. In return, participants would rule out non-GATT specified measures and phase out existing ones over a three- to four-year period. However, the relatively easy access to safeguards could open the danger of first-resort use. The main benefits would lie in the increased transparency in the use of safeguard measures, the progressiveness of their phase-out, and their being subject to multilateral surveillance.

Antidumping. Abuse is central to the negotiations on antidumping. These actions are meant to protect domestic producers against predatorily priced imports, but they may now have become a preferred protective instrument in some countries. For example, since 1980, the four leading users of antidumping measures (Australia, Canada, the EC, and the United States) have initiated over 1,000 investigations, of which some 50 percent have led to action. As a result, the countries that are often subject to such actions—led by Japan and other Asian exporters—want clear rules to prevent unpredictability; they suggest an agreed methodology for calculating dumping margins and strict limits for the period between initiation and definitive findings of antidumping actions. On the other side, the EC and the United States want the rules to cover circumvention (e.g., assembly of dumped inputs in the domestic or third markets). But the framing of rules to determine "intent" in investment decisions is difficult in the face of internationalization of production that can make exporting via third countries, or moving assembly operations into markets, an economically sensible undertaking. There is also the danger of loss of consistency in dealing with local content rules (see section on TRIMs). The need to find a solution is the more pressing as failure to do so could well delay implementation of, if not agreement to, the phasing out of the MFA.

Subsidies. Although there is virtually a worldwide move toward reduction of subsidies, these efforts have taken on Herculean aspects, as they involve difficult internal policy dilemmas of which trade distortion is only one

aspect. Addressing them primarily in the context of trading rules has created basic difficulties, especially for the EC, which has to balance the domestic priorities of its member states while retaining sufficient flexibility vis-à-vis other participants. In this respect, moves by the EC to limit sector-specific subsidies, in the context of completing its internal market integration by 1992, may assist its Uruguay Round position.

The central point concerns outright prohibition of subsidies. The United States would go furthest, prohibiting all export subsidies and those domestic subsidies that distort trade. The EC, Japan, Korea, the Nordic countries, and Switzerland would treat agricultural export subsidies within agriculture, but would prohibit others, including those that relate to export performance. However, neither Japan nor the EC would prohibit domestic subsidies; the EC would deal with these on a case-by-case basis, depending on clearly demonstrated negative trade effects, and would rely on tightened countervailing measures. Most developing countries resist outright prohibition, arguing that subsidies are an essential development instrument. But given domestic budgetary pressures and the need to fend off domestic vested interests, a number might well agree to limitations on industrial export subsidies.

Dispute settlement. A major problem in this area has been the painfully slow process of adopting and implementing findings of GATT panels. However, negotiators now are close to an agreement that could improve this situation materially. The agreement provides that, unless the GATT Council decides to the contrary, panel findings would be adopted automatically. Moreover, retaliation would be possible if the findings were not implemented within defined time limits. This contrasts with present procedures, which require an explicit Council decision for adoption of findings, normally on a consensus basis. Even this improvement, however, does not provide small traders with appropriate leverage in case of non-implementation, given that it is based on retaliation. In return for injecting some automaticity into dispute settlement procedures, countries would renounce the use of unilateral measures inconsistent with GATT rules. At issue is the operation of Section 301 of US trade law and the tendency of other countries to emulate that law. But many countries, including the United States, would not undertake such a commitment without appropriate results on dispute settlement and elsewhere in the Round. Thus, material improvement in the dispute settlement mechanism could be lost if other elements of the package lag.

New areas

Trade-related investment measures (TRIMs). As with subsidies, many participants regard certain TRIMs as a form of protection in that they divert trade and encourage inefficient production. Most industrial countries hold that certain TRIMs—such as local content and trade balancing requirements—should be prohibited as they are contrary to present GATT Articles (on national treatment and the elimination of quantitative restrictions, respectively); further, prohibition also should include export performance requirements, which are not currently covered by the GATT. By contrast, many developing countries maintain that TRIMs are necessary for development purposes and opt for a case-by-case approach that addresses only clearly identified adverse trade effects. A further question is whether disciplines should apply only to requirements that are to be met by investors, or also, as argued by many OECD countries, to measures that offer or withdraw incentives, such as subsidies or tax advantages, and that, therefore, could become TRIMs as well. Despite the basic questions, a compromise appeared possible in Brussels, with many developing countries indicating a willingness to accept the prohibition of those TRIMs that would be regarded as running counter to GATT rules.

Trade-related aspects of intellectual property rights (TRIPs). National sovereignty concerns also dominated the early discussions on TRIPs—an area where the United States, for example, estimates it is losing tens of billions of dollars. However, developing countries now agree on the need to deal with trade in counterfeit goods, estimated to have grown to 3–6 percent of world trade. The debate on intellectual property rights has generally sought to balance protection for the holders of these rights with the national objectives of developing countries, including technology transfers and avoidance of high charges for patent rights, at least in certain socially sensitive areas (e.g., pharmaceuticals). Basic agreement seems possible on substantive norms to protect these rights and on multilateral disciplines to enforce the norms. There remains a question on where to lodge enforcement of rules and disciplines on TRIPs—in GATT, including its dispute settlement mechanism, or elsewhere.

Services. Bringing this area—which covers some 20 percent of world trade—under multilateral rules is a major element in a strong Uruguay Round package. Negotiating difficulties include the problems associated both with bringing under one framework a "supersector" comprising very diverse subsectors and the tendency to carry over existing language, some of which is under negotiation, from the GATT into the agreement—meaning that the emerging framework may well include some GATT ambiguities.

The main issues are threefold:

- devising appropriate rules for trade in services, especially as delivery of a service frequently depends on the right of establishment (e.g., a subsidiary in a foreign market). Negotiation of the latter falls outside the limits of the traditional GATT and, therefore, is being challenged by some. An important point of debate is whether, in case of disputes, countries could retaliate across services sectors—a particular concern in financial services—and across services and goods, as well;
- formulating coverage, as a number of sectors are managed by bilateral treaties (civil aviation), and others are effectively closed to genuine competition—either to accommodate strong domestic and cartel-type interests (maritime services, especially in the United States), or because they are in the hands of government monopolies (telecommunications in most countries); and
- confronting the "free-rider" issue, which springs from the fact that in a number of areas and in a number of countries, market access has been largely unregulated, if not relatively free. This raises the question of how to bring along those who are reluctant to liberalize access. The US proposal to make most-favored-nation (MFN) treatment conditional, based on the degree of access participants are willing to bind, was opposed as compromising a basic principle of the GATT; the EC's sectoral nonapplication approach, based on a

H.B. Junz
a US citizen, is the IMF's Special Trade Representative and Director of the IMF's Geneva office.

Clemens Boonekamp
Dutch, is a Senior Economist in the IMF's Geneva office.

participant's liberalization commitments for a particular sector, creates problems for countries that seek to trade off a higher level of commitments in one sector against a lower one in another.

These deliberations have led to a reassessment of the benefits to be derived from a services agreement, both by those who were the main proponents and those who were initially unconvinced. As the ardor of the former tempered during the discussions, some of the latter began to see material advantages. With mutual interests more apparent, there is now a large constituency in favor of an agreement, including most major traders among developing countries.

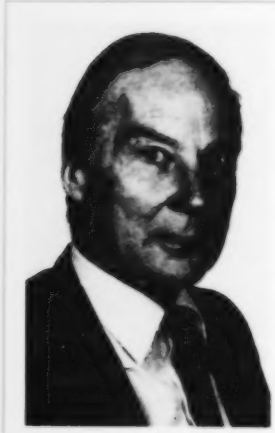
Conclusion

With complex issues to be resolved, it is not surprising that the systemic issues of how to improve the functioning of the multilateral trading system and how to strengthen the responsibilities of the GATT and its Secretariat have taken a back seat. Thus, the question of increasing the GATT's contribution to improved coherence in global policymaking, including strengthened cooperation with the IMF and the World Bank, has been left to some appropriate time down the road. Consideration of closer ties between the institutions also depends upon whether the GATT is to evolve toward a World Trade Organization, which would bring all multilateral trade treaties under one roof.

Whatever form the GATT takes, a successful outcome of the Uruguay Round means increased responsibilities. This is so because the results need to be comprehensive if they are to set the trading environment—and hence help shape the external environment within which countries formulate their adjustment and growth objectives—for the next several decades. This has become increasingly clear with the difficulties negotiators have faced, including the possibility of losing the Round entirely. Thus, virtually for the first time, businessmen worldwide are making a concerted effort to voice their interest in not allowing the talks to be derailed.

Without a successful Uruguay Round, one of the main worries is that the trend toward bilateral and regional trading agreements is likely to accelerate and might do so in a way not supportive of the growth of global trade. Ideally, the formation of these pacts would work toward member countries' opening their markets globally as well, so that any trade diversion could generally be presumed to be offset by trade creation. It was on that basis, for example, that the Canada-United States Free-Trade Agreement was put forward. However, the belief that global trade creation may only be a minor part of the dynamics of regional integration has given impetus to the expansion, if not formation, of these regional groupings (e.g., the recent spate of EC membership and association applications, the prospect of a European Economic Space, and the moves toward more free trade agreements in the Western Hemisphere). Moreover, if market access were reasonably assured on a regional basis only, production decisions within a country would be based on regional rather than on general market signals and could fall short of potential.

The recent resumption of the negotiations obviously constitutes a necessary, but not a sufficient, step toward success. It needs to be coupled with a genuine commitment to confronting and solving the underlying problems that have repeatedly stopped the Round. It would be ironic if the virtually worldwide trend toward allowing national economies to be guided by market signals were to be frustrated by an inability to allow these same signals to guide the complex workings of the multilateral trading system. ■



Interim Committee and IMF Executive Board Laud Alan Whittome

First the Interim Committee and then the Executive Board of the IMF passed resolutions of praise upon the retirement on March 31, 1991 from IMF staff of L. Alan Whittome after 27 years of service. The resolutions recognized Mr. Whittome's exemplary service as a member of the IMF staff and his efforts in the promotion of international monetary cooperation.

Mr. Whittome joined the IMF staff in 1964 as Director of the European Department, after attaining a senior position in the Bank of England. He subsequently became Counsellor of the IMF, and Director of the Exchange and Trade Relations Department. Noting his many other achievements, the Managing Director, Michel Camdessus, and the Chairman of the Interim Committee, Michael H. Wilson, stated that "Most recently, Mr. Whittome contributed indelibly to the Study of the Soviet Economy requested by the heads of State and Government and the President of the EC Commission at the Houston Economic Summit, a study that typifies the sound advice he has given to an entire generation of public officials."

GUEST ARTICLE

The Uruguay Round: An Unfinished Symphony

As the current multilateral trade negotiations go into "overtime," an observer comments on agriculture and related important issues that hold the key to the triumph of multilateralism

Sylvia Ostry

Chairman, Centre for International Studies, University of Toronto

The Uruguay Round should have been over by now. But participants failed to reach agreements at their Ministerial meeting in Brussels in December 1990. This had led to an extension of the round into an "overtime" of sorts. There are some who would argue that the Uruguay Round was too much, too late.

It was too much, because in addition to tackling two sectors—agriculture and textiles and clothing—that had escaped the discipline of the General Agreements on Tariffs and Trade (GATT) for decades, the round attempted to deal with the unfinished business of the Tokyo Round in safeguards, and to stem the erosion of GATT of the 1970s and 1980s by the use and abuse of the trade remedy laws of antidumping and of countervailing moves against subsidies. Further, the agenda also included major additions to GATT's mandate by adding the "new issues" of services, trade-related intellectual property and investment, and measures to strengthen GATT as a contract and an institution.

It was also too late, because the United States had been trying to launch a new round since the early 1980s (in part to cope with the alarming rise in protectionist pressure fed by an increasing trade deficit). These efforts had been successfully blocked until September 1986 by the European Community (EC) (because of fear that agriculture would be prominent in the negotiations) and by some less developed countries (because of opposition to the new issues). But by then, there had been a fundamental change in US Government trade policy, from a single, overriding commitment to the GATT to a multitrack policy of unilateralism, bilateralism, and multilateralism. The first—unilateralism—was launched in 1985 through more active use by the Administration of section 301 of the 1974 Trade Act, under which the United States alone decides other countries' unfair trade practices on specific items, determines violators, and implements retaliation to secure compliance. The idea of unfair trade practices was later extended in the 1988 Omnibus Trade Act to cover trade practices of whole countries ("Super 301"). Bilateralism was endorsed first in the 1985 US-Israel free trade agreement, then in the much bigger US-Canada free trade agreement initiated in December of that year, and (in a different way) in the US-Japan structural impediment initiative of 1989.

It seems unlikely that the United States will soon return to the single track policy of the post-World War II years, or its role as guarantor of the multilateral trading system. That must be kept in mind whatever the final outcome of the Uruguay Round. One of the main lessons of the round to date is that neither of the two other major trading powers—the EC and Japan—was prepared to assume the role of guardian of the system, perhaps because they were operating under the traditional, but outdated, assumption that the United States would do it.

But this negative verdict about the round—too much, too late—suggests there are preferable alternatives to pursuing this extraordinarily difficult effort of updating and reinforcing multilateralism, which is not the case. For, indeed, what is really on the table in the negotiations is the future of a trading system, however imperfect, based on rules rather than on power. To the nonpowerful countries, the alternatives are obviously unattractive! But even to the major trading powers, the uncertainty and instability that would be generated by a move away from a transparent rules-based system is likely to be costly in the longer run. The basic international public good of the GATT system is stability and a sustained force for integration, rather than divisiveness, both economic and political—hardly an unimportant public good.

So what are the prospects for the current trade round in light of the recent stumbles?

The Brussels ministerial meeting

Unusually, the Punta Del Este Declaration, which launched the Uruguay Round, specified the duration of the negotiations, so the Ministerial meeting in Brussels of December 3–7, 1990, had been "on the books" for four years. Yet the profoundly divisive issue of agriculture, which had delayed the launch of the round and nearly brought negotiation to a halt at the mid-term ministerial meeting in Montreal two years earlier, dominated the Brussels meeting and forced an adjournment without agreement on any other item on the agenda. Unlike previous rounds, when disagreement between the European Commission and the United States on agriculture did not prevent negotiation of a reasonable "package"—the main reason why agriculture has remained a sector uniquely untouched by international rules—this escape route of agreeing to disagree was closed not only because the US position was much firmer this time, but also because the Cairns Group (a coalition of countries—both developed and developing—that export agricultural products) were not prepared to accept another such bargain.

Agriculture has been protected in all countries in one way or another, but the international spillover effects of these domestic economic and social policies became seriously destructive in the 1980s for a variety of reasons too complex to detail here. The fundamental problem in agriculture is that market signals have been blocked by gov-

This is the first of a series of commentaries from different vantage points on aspects of the Uruguay Round. Guest Articles do not necessarily reflect the views of either the IMF or the World Bank.

Readers are also invited to contribute their views in the form of Letters to the Editor.

ernment intervention, and technological change has greatly exaggerated the impact of these interventions. The EC produces 15–20 percent more food than it needs, and this "overhang" is rising as technological change improves productivity and changing food consumption habits reduce demand. The reforms suggested would increase the role of market signals. The debate in the Uruguay Round also required the EC to confront the political and social consequences of reforming the "basic mechanisms" of its Common Agricultural Policy (CAP), the original glue binding the Franco-German alliance.

External pressure is often used by countries as a device for undertaking necessary but politically dangerous internal reform—the most obvious example today is Japan, and the bilateral structural impediments initiative with the United States. However, the EC is, in some respects, unique as a trading entity. There, the opposite situation prevails: External pressure creates a negative force impeding domestic reform. Those blocking reforms argue that other countries, especially the United States, do not understand the "true" dimensions of farming in Europe and are trying to impose their ideas, based on a totally different agricultural system, on Europe. The CAP needs basic reform, if only for budgetary reasons. But only domestic pressures could lead the political decisionmakers to take the bull by the horns (to use a rural metaphor).

Brussels meeting fails

In February 1988, a modest change was made to the CAP because of the need to reduce budgetary expenditure on agriculture and free funds for regional adjustment after the accession of Spain and Portugal to the EC. By 1990, it was clear to the Commission that there would be growing budgetary overruns (and growing lakes and mountains of subsidized agricultural products) unless a much more radical reform were undertaken—especially in light of the prospect of increasing agricultural exports from a reforming Eastern Europe. While for the EC, the Uruguay Round negotiations were either irrelevant or deleterious to the prospects of agricultural reform, a happy side benefit of such reform would be the rather rapid reduction, or even elimination of subsidies, especially export subsidies. But the intensely divisive political debate that would inevitably accompany any real effort to reform the CAP had not yet begun in December 1990. So the Brussels meeting ended with the EC (and, strangely, Japan and the Republic of Korea—strange because unnecessary and certain to enrage the US Congress) rejecting the proposal for a negotiating framework circulated by the chairman of the Agricultural Negotiating Group and acceptable to the United States and the Cairns Group.

Nonetheless, a curious event occurred before the final rejection. What has been aptly described as a "phantom offer" by the EC was circulated by word of mouth among a number of delegations, and it sounded quite promising in that it got over the main sticking point—a refusal by the EC in its formal position to accept separate and specific commitments on internal support, border measures, and export subsides. But when the ghost took material form in the Chairman's paper, the meeting ended with a rejection of the proposal—which outlined the framework for negotiations in the three kinds of subsidies with suggested magnitudes of reduction—by the EC, Japan, and Korea.

Post Brussels prospects

After two months of shuttle diplomacy by GATT Director-General Arthur Dunkel, unsuccessful meetings of major trade officials, numerous false starts, and mixed signals, on February 20, 1991, in Geneva, the European Commission accepted (or, more precisely, did not reject) what more or less amounted to the phantom offer: for example, participants "agree to conduct negotiations to achieve specific binding commitments" on each of the three areas of contention (domestic supports, market access barriers, and export subsidies). The negotiations were relaunched—or rather some work began a few days later on technical matters in agriculture and other agenda items.

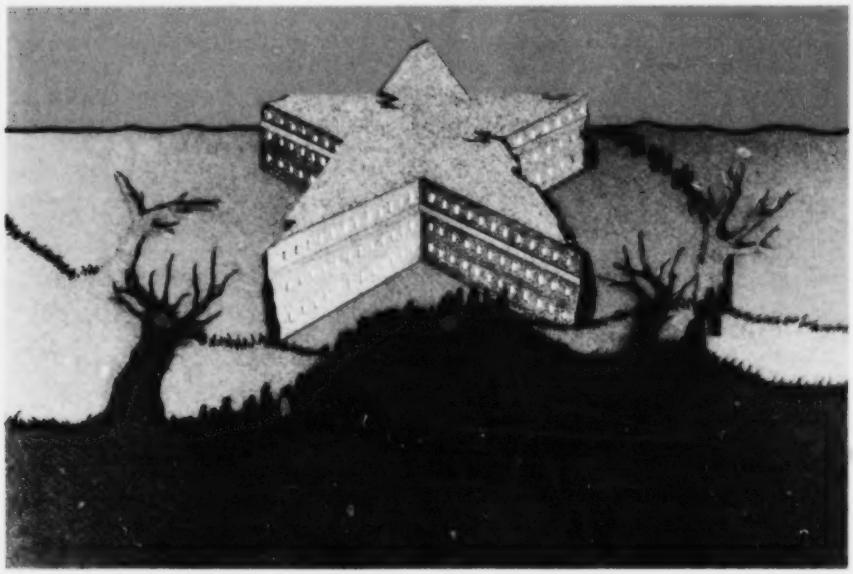
Timing is everything. Between the end of December 1990 and February 20, 1991, the discussions on CAP reform had started in Brussels—to be concluded when? No one knows. However, the United States had signalled that it would ask for an extension of its "fast track" from Congress (needed anyway to pursue its North American Free Trade Agreement with Mexico and Canada). This it did. (The "fast track" requires Congress either to approve or reject the entire trade agreement without any amendments. It is meant to stop an avalanche of proposed changes from special interests that would likely decimate the agreement. It was due to expire on June 1, 1991, under the terms of the 1988 Act, and the law required a two-year extension to be requested by the President by March 1, 1991.) So the Uruguay Round negotiations can theoretically continue for up to two more years.

While some agreement on agriculture between the United States and the EC is a *sine qua non* for a successful conclusion of the round, it is by no means sufficient. There are still significant policy differences both within the Organization for Economic Co-operation and Development and with some developing countries in the area of the new issues, especially in services (in which domestic US pressure has created problems in a number of sectors) and in intellectual property. Other serious unresolved problems remain in the trade remedy laws negotiations, where progress on the subsidy countervailing code and, to a lesser extent, antidumping, has been glacial. Since, after the Tokyo Round reductions of tariffs, the use of the trade remedy laws became the major form of protectionism in a number of countries as tariffs were less and less important as trade barriers, these are not trivial issues.

Finally, there is the question of the future of the multilateral system. Only a "big package" (including at least agriculture, a phase-out of the Multifibre Arrangement on textiles and clothing, services, intellectual property, a significant increase in market access, and possibly some movement on trade remedies) would stand a chance of incorporating elements of systemic reform. The latter would have to include enough strengthening of the dispute settlement mechanism to guard against any resurgence of unilateralism, and the establishment of a World Trade Organization. The WTO, apart from creating an international organization to continuously monitor trade arrangements and support work on the policies and issues, would need to provide for the legal establishment of a Trade Policy Review Mechanism (set up provisionally after the December 1988 mid-term Ministerial Review). Finally, in the absence of a WTO, it is difficult to see how the GATT could cope with the implementation of the enormously complex Uruguay package. The fragmentation of dispute settlement, already introduced in the Tokyo Round (by the legally separate codes on a number of items), would be greatly exacerbated.

It is difficult to imagine how the contemplated General Agreement on Trade in Services (GATS), or obligations on the level of intellectual property rights, or even new disciplines on agriculture could be effectively integrated with the GATT as now constituted. The legal and political complexities would prove so formidable that over time the results of the negotiations could well be negated. The erosion of the GATT, so evident in the 1970s and 1980s, would commence again. The form might be different but the result would be the same: the end of multilateralism. Let us hope that this fearful prospect will steel the resolve of the negotiators and speed them toward a quick and practicable resolution of key issues. There is no preferred alternative. ■

Reforming the Soviet Economy



A joint international study examines the causes of the Soviet Union's economic problems and argues for rapid and comprehensive reforms

Hugh Bredenkamp

By the end of the 1980s, it had become clear that the Union of Soviet Socialist Republics was bound for fundamental economic and political change. The Soviet leadership had attempted unsuccessfully to modify and thereby revive the traditional system. It now appeared ready to accept the demise of central planning and begin the transition to a conventional market economy.

Against this background, the leaders of the Group of Seven industrial nations (the G-7) and the President of the European Community, at their summit meeting in Houston in July 1990, asked the IMF, the World Bank, the Organization for Economic Co-operation and Development (OECD), and the newly established European Bank for Reconstruction and Development (EBRD) to prepare a study of the Soviet economy. The institutions were to make recommendations for reform of the Soviet economy and suggest criteria for effective Western assistance in the reform process. After five intensive months, including a number of visits to the Soviet Union, the summary and recommendations of the joint study were presented to the G-7 in December 1990 and published in January 1991; the detailed background papers appeared in three volumes in March (see box).

The official Soviet response to the study was generally positive. Nevertheless, the authorities have pressed ahead with a program of administrative measures that falls well short of the rapid and fundamental liberalization advocated by the four international institutions. The outlook for the near term is, on the whole, not encouraging.

Origins of the present crisis

The Soviet Union's present economic difficulties are largely systemic. They reflect deep-seated problems with the system of central planning and the inherent limitations of the traditional resource-intensive strategy for growth (which relied on ever-increasing quantities of labor, capital, and raw materials to compensate for a relative neglect of technical and economic efficiency). These problems were brought to a head by poorly conceived attempts to improve the functioning of the existing system through piecemeal reforms.

After periods of relatively rapid growth in the 1930s and during reconstruction following World War II, Soviet growth had begun a secular decline by the 1970s. Labor participation rates approached their feasible limits; fuel and raw material reserves became less accessible and more costly to exploit; and the workforce appeared increasingly demoralized by the poor quality and meager supply of consumer products, sporadic and in some cases chronic shortages of specific goods, and the lack of incentives for hard work, creativity, and efficiency. The potential to offset these factors through technical progress was stifled by the system's emphasis on meeting perennially ambitious output targets, which discouraged risk-taking and innovation on the part of enterprise managers.

In addition, the central command structure on which a planned economy relies so heavily to ensure consistency in production and expenditure decisions was effectively disabled by partial liberalization and decentralization in the late 1980s. The hope that, by approximating certain features of the conventional market system, the Soviet economy could emulate the generally superior performance of the Western economies proved to be a vain one. In a sense, the Soviet Union ended the 1980s with the worst of both worlds. Enterprises were left, by and large, to operate

with neither the constraints and guidelines of the Plan nor the appropriate price signals and competitive discipline of the market.

The move toward reform

By the early 1980s, the Soviet leadership was becoming increasingly concerned at the prospect of economic stagnation, not least because of the threat this posed to the Soviet Union's military prowess. As a result, when Mikhail Gorbachev came to power in 1985, he appeared convinced of the need for major reforms if the secular decline in economic growth were to be reversed.

In the event, the early Gorbachev initiatives, though they were presented as heralding a significant restructuring of the economy *(perestroika)*, were more in the nature of traditional "campaigns," intended to drive the existing system at a faster pace. They focused largely on the retooling and modernization of industry, requiring a higher rate of investment and a heightened emphasis on quality control. Various supporting measures—including the policy of *glasnost* or "openness," and the ill-fated anti-alcohol campaign—were designed to make managers and bureaucrats more accountable and to enhance discipline in the workplace.

The results were unimpressive. Within a year, the retooling campaign ran into serious capacity constraints in the capital goods sector. Quality controls reduced factory shipments, and hence output, but failed to raise quality. Average growth in 1986–87 was lower than in the early 1980s. Meanwhile, *glasnost* served mainly to bring to the surface the disillusionment and unrelieved frustrations of the population, as living standards continued to decline. To make matters worse, the drop in world oil prices in 1986 forced the authorities to slash imports and divert output from domestic to convertible currency export markets.

First attempts at reform

In 1987, the first major attempts were made to reform the system. Though more ambitious than the preceding campaigns, these reforms were incomplete and failed to strengthen the role of market forces to any significant degree. Moreover, they proved to be deeply disruptive. The centerpiece of the new effort was the Law on State Enterprises, which took effect at the beginning of 1988 and replaced mandatory output targets with so-called state orders or procurement contracts, giving enterprises greater freedom to accumulate and use the proceeds from any remaining production. In practice, any prospects for the emergence of functioning wholesale markets were severely curtailed by the predominance of these state orders, which preempted most of industrial output in 1988 and 1989. The inflexible and distorted official price system was left essentially intact, as was the role of the state distribution agency (Gossnab) in allocating most material inputs. Outside the state sector, encouragement of private economic activity was limited to small numbers of joint ventures with foreign participation and a grudging acceptance of so-called cooperatives, which have since been subjected to sporadic campaigns of harassment.

Perhaps the most serious policy error at this time, however, was the failure to control overall monetary conditions while relaxing administrative financial constraints at the enterprise level. Between 1985 and 1988, the state budget deficit soared from under 2 ½ percent to 11 percent of GDP. Government revenues from foreign trade were hit as oil prices fell; indirect tax receipts suffered under the anti-alcohol campaign and from the poor state of the economy in general; and subsidies rose as the authorities failed to pass on wholesale price increases—intended to stimulate production—to the consumer. Fiscal deficits were financed almost exclusively by credits from the central bank (Gosbank). Hence, broad money growth during 1987–90 (averaging 14–15 percent) was roughly twice the rate prevailing in the early 1980s. Meanwhile, the banking reform of 1988, which separated "commercial" and central banking activities, failed to give Gosbank the necessary independence to contain overall credit expansion. A modest squeeze on enterprise credit was insufficient to prevent a massive build-up in firms' liquidity as transfers of profits to the budget declined under the new regime.

Flush with funds that they were now able to deploy as they wished, enterprises began to stockpile raw materials and other inputs, and to launch new investment projects. As shortages proliferated, many of these projects ground to a halt before completion, tying up valuable physical capital; and the incentive to hoard materials increased, aggravating the shortages still further. At the same time, firms began to grant annual wage increases of 8–10 percent, easily evading a poorly administered tax on "excess" wage growth. Given annual retail price increases that were typically held below 2 percent and broad stagnation in real output (GDP actually declined in 1990), the results were longer queues and empty shelves in the state stores, burgeoning black market activity, and deepening resentment and frustration among consumers.

This fundamental loss of control over the domestic economy was mirrored in the external trade sector. The state's monopoly on foreign trading rights was substantially weakened in 1989 for all but a few strategic products, and exporters were for the first time permitted to retain some proportion of their foreign exchange earnings. The combination of trade liberalization and rapidly expanding domestic demand, coming on top of major adverse terms of trade shocks in 1986 and 1988, led inevitably to a deterioration in the external balance. Even the traditional (mostly oil-generated) trade surplus with the convertible currency area vanished in 1989.

Failure of *perestroika*

By 1990, the failure of *perestroika* was clear. Far from reviving the ailing Soviet economy, the partial relaxation of administrative controls coupled with a basic neglect of macroeconomic demand management had led only to increasing chaos. The authorities had shied away from the two steps that might have led to genuine restructuring and recovery: namely, price liberalization and tight financial policies. Shortages of materials and spare parts began to hit key sectors such as transportation, agriculture, and oil and gas (indeed, oil output began to fall in 1989). The breakdown in the retail distribution system provoked strikes in a number of sectors. A record grain harvest served mainly to expose the inadequacies of the storage and transportation facilities in the countryside, with the result that millions of tons of grain were left to rot in the fields. Conflicts over dwindling supplies of goods aggravated the mounting political tensions that had surfaced under glasnost between republics and among various ethnic groups. Meanwhile, environmental

The Economy of the USSR: Summary and Recommendations (57 pages) and *A Study of the Soviet Economy* (the background papers; 1,168 pages) are available from the World Bank Publications Department and IMF Publications Services, respectively. The three volumes of background papers provide a comprehensive overview of the Soviet economy's structure, recent history, and wide-ranging problems. As well as presenting proposals for macroeconomic and systemic reform, of the sort described in this article, the study also discusses how reforms might be implemented in specific sectors. Separate chapters are included on energy, the environment, agriculture, manufacturing, transport, distribution, telecommunications, housing, and the metals and mining industries. There is also a discussion of the medium-term prospects for the Soviet economy under different reform scenarios.

pressure groups prevailed upon local authorities to close down polluting plants that, in many cases, were monopoly producers of certain products, adding to the disruption of the economy.

On the external side, enterprises made uncoordinated and, in the aggregate, excessive commitments—through import orders and foreign borrowing—on increasingly scarce supplies of convertible currency. Foreign exchange reserves dropped sharply and arrears on payments to foreign suppliers amounting to more than $5 billion had accumulated toward the end of 1990.

The presidential guidelines

As the economic situation deteriorated, the reform debate in the Soviet Union became increasingly polarized. One side, whose views were represented most prominently in the Shatalin Report of August 1990, argued that the reforms had failed because they had not gone far enough and that an accelerated program of privatization and liberalization was required to stabilize the economy. Others, including the then Government under Prime Minister Ryzhkov, believed that stabilization required the initial reimposition of administrative control over inter-enterprise trade and steep increases in prices on basic consumer goods to reduce subsidies. This could be followed by a gradual, tightly controlled, liberalization of the economy.

In October 1990, the Supreme Soviet approved President Gorbachev's proposal, entitled "Guidelines for the Stabilization of the Economy and Transition to a Market Economy." Despite a clear statement that "there is no alternative to shifting to the market," the presidential guidelines were couched in general terms and appeared to steer closer to the gradualist path for reform.

The presidential plan outlined four stages in the reform process. The first phase would focus on the stabilization of the economy and the beginning of commercialization and privatization of state enterprises. The second phase would emphasize the gradual liberalization of prices and the introduction of a social safety net. In the third phase, structural reforms covering, for example, the labor compensation system and the housing market, would be implemented, and financial policies would be eased as inflationary pressure subsided. The final phase would include the establishment of foreign exchange convertibility of the ruble for enterprises. No precise timetable was set, but the presidential guidelines expressed the hope that the four stages could be completed in 1½–2 years.

Stabilization was to be achieved by a combination of measures. Administrative price adjustments would, in effect, validate part of the repressed inflation, as well as reduce some of the worst relative price distortions (including the very low domestic price of energy). In addition, a limited proportion of retail and wholesale prices would be liberalized in the first year. Sales of state assets (physical or financial), a shift in the structure of production away from investment and defense toward consumer goods, and an increase in interest rates on bank deposits could absorb whatever remained of the "monetary overhang" (the accumulated stock of excess liquidity in the economy, which was estimated in the joint study to have reached 25 percent of GDP by 1990). A reduction in the state budget deficit to 2 ½–3 percent of GDP, the statutory elimination of monetary financing of the deficit (except *in extremis*), and the use of conventional instruments of monetary control would then prevent the re-emergence of inflationary pressures.

> ***. . . little could be achieved in the way of reform until formal agreement had been reached on such issues as the ownership of state assets and the sharing of fiscal revenues and expenditure responsibilities.***

Further liberalization of prices would depend on the success in stabilizing the financial situation and supply conditions. It was expected that price controls on all but a narrow range of consumer goods would be lifted by the end of 1992. The prospective role and instruments of incomes policy were set out only in general terms, but appeared to include limited indexation and the continuation of some revised form of tax on "excessive" wage increases.

The proposals on commercialization and privatization in the presidential guidelines were particularly vague, as was the discussion of competition policy. The importance of financial accountability for enterprises was stressed, for example, but no criteria were given for the selection and evaluation of enterprise managers prior to privatization. The potential role for increased exposure to foreign competition in the restructuring process was ignored, and the impression was given that further trade liberalization would proceed relatively slowly.

More fundamentally, the presidential guidelines failed to confront one of the major risks of a gradualist approach to reform: namely, that the chaos in production and distribution could continue to spread, making the ultimate transition more difficult and possibly even discrediting the goal of a market economy altogether. Some would argue that this danger was already apparent in the Soviet Union by the end of 1990.

The joint study's recommendations

In part with these concerns in mind, the joint study by the IMF, the World Bank, the OECD, and the EBRD put great emphasis on the mutual inseparability of price liberalization, enterprise reform, and macroeconomic stabilization. No one of these could stand on its own, and only this combination of policies could ensure the speedy restoration of equilibrium in product markets.

Thus, the study proposed early and comprehensive decontrol of prices with few exceptions. These included, for example, most public utilities since they were likely to remain communally owned monopolies, and housing rents. Various options were suggested for the protection of vulnerable social groups at reasonable cost, in ways that would not hinder the reforms.

Since exposure to world market prices would help to establish quickly a rational set of domestic relative prices, it was proposed that licensing and other quantitative restrictions on foreign trade be lifted early on. Where the scale of price adjustment might be excessively disruptive (e.g., in the case of petroleum prices), a simple set of border taxes should be installed to absorb part of the initial shock. These taxes would need to be phased out according to a pre-announced timetable within, say, three years.

The efficient determination of market prices requires that enterprises operate on commercial principles under hard budget constraints. Ultimately, this would be best assured by the removal of almost all enterprises from state ownership and control. This is not practical in the short run, however, and the study therefore proposed a mixed approach. Small-scale enterprises—particularly in the transport and distribution sectors, where assets may be relatively easy to value—should be auctioned off as quickly as possible. Larger enterprises could first be converted to joint stock companies, shares which might be held initially by state holding companies. In time,

as industries were rationalized and restructured, and as relative prices stabilized, these enterprises too could be privatized. During the transition, enterprise managers would be given performance-related incentives and total independence in day-to-day operations.

The study concluded that the target for the 1991 state budget deficit proposed in the presidential guidelines, if accompanied by significant interest rate increases, was broadly in line with the requirements of short-run stabilization. It was considered, however, that a substantial effort would be needed to lower the deficit to this level (2 1/2-3 percent of GDP). Appropriate measures would include sharp cuts in price subsidies and in lower priority expenditures, such as personnel and administration, subsidies to loss-making enterprises, and defense outlays (which, even at the probably understated level of 7 percent of GDP, absorb a higher share of resources than in most countries). *Ad valorem* indirect taxes should be introduced as a matter of urgency to ensure that wholesale price increases are automatically passed through to the retail level, thereby protecting the budget. Further comprehensive tax reforms and expenditure restructuring would be needed in the medium term.

Until financial markets were functioning effectively, it was thought advisable to "overdetermine" monetary control—by retaining quantitative credit ceilings, setting interest rates at a level that would give a positive real return on financial assets, and imposing reserve requirements on banks. Credit ceilings would be phased out over time. The study did not preclude the use of a monetary reform at the outset, but warned against the risk of loss of public confidence in the currency (and even in the reform process itself).

The study also identified the need for reforms in a number of other areas, including a substantial overhaul of the legal system to produce well-defined property rights, enforceable contracts, and bankruptcy procedures, and a social benefit system to cope with transitional unemployment. At the same time, the government should begin to withdraw from direct intervention in the wage-setting process. Finally, the study proposed various measures to promote a progressive deepening of the nascent foreign exchange market in the Soviet Union, with a view to unifying the exchange rate at a realistic level and achieving current account convertibility within one or two years.

Western assistance

The sheer size of the Soviet Union gives Western assistance at most a supporting role in the reform process; ultimate success will depend on the efforts and determination of the Soviet people themselves to transform their economic system. The study concluded that—once the commitment had been made to implement a broad-based liberalization of prices, sound financial policies, and enterprise reform—financial assistance from the West could help to ease the transition and improve the conditions for longer-term growth. Without such a commitment, additional financial resources would be largely wasted. This is a view shared by many in the Soviet Union.

Food aid, however, could be granted as an immediate priority. In offering this proposal, the study nevertheless made clear that the biggest single contribution to the alleviation of food and other shortages would come from early implementation of fundamental economic reforms.

Various types of technical assistance could help prepare the ground for such reforms. Western expertise and experience, including from the private sector, could be applied in the design of policies, the establishment of new institutions, and the development of an appropriate legal framework. Assistance could also be given in banking, auditing and accounting, and marketing. To be effective, Western involvement would need to be closely coordinated, primarily by the Soviet Union itself.

Widespread project assistance would begin only once reform was underway (though prior action might be justified in the cases of energy and the environment). The initial focus should be on developing those parts of the infrastructure that could elicit a rapid supply response: for example, in agriculture, food processing, retailing, and transportation and storage. Gradually, additional support from foreign direct investment could be expected. In addition to important legal and institutional changes, however, this would probably require further infrastructural investment, for example, in the modernization and expansion of the currently inadequate telecommunications system.

There might also be a case for balance of payments assistance to permit additional imports of capital goods, as well as to cushion the long-suffering Soviet consumer from some of the costs of the transition. The needs under this heading would depend largely on conditions (for example, regarding energy output and export prices) prevailing at the time.

Recent developments

In the months since the conclusions of the joint study were published, two of the major concerns expressed at that time have continued to shape the process of reform in the Soviet Union. The first relates to the division of authority and responsibility between the union-level and republican governments. The study suggested that little could be achieved in the way of reform until formal agreement had been reached on such issues as the ownership of state assets and the sharing of fiscal revenues and expenditure responsibilities. In the event, the constitutional deadlock seemed no closer to a resolution in the early part of 1991 than it had during 1990, and the process of reform was largely paralyzed as a result.

A second, related, concern was that unless the authorities made a quick and irreversible break with the past, particularly on price controls, the momentum for reform could collapse at an early stage. A cautious, administrative approach would be most likely to stall in the face of bureaucratic and political inertia, while shortages and economic chaos continued to spread. This danger loomed large in early 1991. While the new government under Mr. Pavlov continued to advocate both the objectives and, by and large, the methods set out in the presidential guidelines, signs of progress were few and far between. Indeed, the ill-conceived attempt at partial monetary reform in January, which appeared to have all the costs and almost none of the benefits of a genuine monetary reform, was probably counterproductive. So too was the granting of wide-ranging powers to state investigators to interfere in Western as well as Soviet businesses, with a view to controlling the exploitation of the government's own distorted price system. The disarray in retail and wholesale trade is unlikely to be resolved by the announcement in April of substantial administered increases in retail prices, with only partial liberalization. Markets continue to be largely incapacitated by ceilings and other forms of state controls on prices.

Against this background, the immediate prospects for the Soviet economy do not seem particularly bright. Nor is there the consoling prospect, which radical reform would bring, of strong and sustained growth in the future. The ultimate recovery will be quicker in coming the sooner the major constitutional issues are settled and the authorities embark on a comprehensive liberalization of the economy. ■

Hugh Bredenkamp
a British subject, is an Economist in the IMF's European Department and was a member of the Soviet study task force. He has an MSc from the London School of Economics and has worked at the UK Treasury.

External Financing and Adjustment

The challenge in designing a viable adjustment program

Marcelo Selowsky

For many developing countries facing economic stagnation and heavy debt burdens, the foremost challenge is to recover sustainable growth. That means finding the right combination of domestic policies and external finance to: (1) reduce macroeconomic instability, reflected in high inflation and high and volatile real domestic interest rates; (2) restore growth while allowing a minimum increase in consumption per capita so that the adjustment can be sustained; and (3) reduce the external debt burden, which restricts voluntary external financing and acts as a tax on investment.

These objectives, however, cannot be achieved overnight, and there are some significant trade-offs among them—trade-offs that change as time passes. This means that an adjustment program must be viewed in an *intertemporal* context, relating actions and outcomes over time. Most important, the role that external finance plays in the adjustment program must be identified, as higher levels of financing, particularly at the early stages, are often a feature of these programs.

External financing potentially increases a country's investment rate (potentially, because that financing might end up in higher consumption or capital flight). It also enables more imports of capital goods and inputs and a better utilization of capacity. But some day this financing must be repaid, and when this occurs, it will be at the expense of lower levels of expenditures and a lower availability of foreign exchange. A careful analysis is thus necessary to assure that the benefits of foreign borrowing today are larger than the cost of repaying it in the future. This is all the more important in cases where a country is already highly indebted.

In examining the relevant trade-offs, the intertemporal analysis becomes crucial. Recovering growth requires higher levels of investments and imports, requirements that can be moderated if the efficiency of resource use also increases (reflected by a lower incremental capital-output ratio, ICOR). But for investment to increase, additional external financing is needed to complement domestic savings, unless consumption is further compressed. However, a gradual reduction in the debt burden (as measured by debt/GDP, interest/GDP, etc.) requires a decline in the need for new external borrowing relative to GDP—and this can only be achieved if there is a reduction in the excess of the country's total expenditures over its income, namely a reduction in the country's current account deficit relative to GDP. This necessitates an increase in domestic saving relative to the country's investment and a corresponding increase in its exports relative to its imports. Normally the country must generate both a saving surplus and a corresponding export surplus.

How then do we balance the potentially positive effect of additional external borrowing with its adverse effect on debt accumulation? How do we make compatible the required increase in the trade and saving surpluses with the higher levels of imports and investment required to recover and then sustain growth? How do we reduce the need for domestic financing of the public sector deficit—as needed to lower inflation and the crowding out of the private sector—if the government has to service large interest payments? The analysis must be able to show how a temporary acceleration of external financing allows breathing time, so that the improved policies eventually permit the economy to recover stability and growth together with a gradually declining current account deficit as a percentage of GDP. This article presents a framework—essentially three mechanisms—through which external financing plays just such a role during the transition.

External and internal adjustment

To recover output and then growth, countries must raise the levels of imports and investment, but to reduce the external debt burden, they must increase their export and saving surplus. Both conditions can be achieved simultaneously only by expanding exports and domestic savings. It takes time, however, for exports to expand—even under the best of policies—and the growth of domestic savings is constrained by the need to maintain consumption levels in the short run.

Foreign saving can finance such a resource gap during the transition. But this can be justified only if this support is accompanied by policy measures that gradually reduce the need for further external financing. Exports must expand and import substitution must be made more efficient. To this end, reform of the trade regime is crucial (e.g., unifying the exchange rate and replacing quantitative restrictions with low and uniform import tariffs).

In many countries, generating a saving surplus—an excess of domestic saving over investment—has proved to be harder than generating a trade surplus—the excess of exports over imports. However, this higher saving surplus cannot come at the expense of the investment necessary to recover growth, in particular, private investment. Foreign financing can temporarily fill the gap between investment requirements plus external interest payments and the domestic savings rate, while the latter is given a chance to increase. But this means the adjustment program must include reforms to increase domestic savings, such as financial deregulation and the elimination of directed credit, mandatory reserves,

For a fuller discussion, see "The Debt Problem and Growth," by Marcelo Selowsky and Herman G. van der Tak, World Development, September 1986.

and interest ceilings. Reducing macroeconomic instability is equally important for encouraging savings and the desire to invest. This calls for a fiscal adjustment, a crucial area to which we now turn.

Fiscal adjustment

When the public sector holds a large amount of external debt, it must raise the resources required to service the debt—that is, it has to solve its "own" internal adjustment problem. In addition to external borrowing, it can tap the central bank and domestic capital markets. But this generates further macroeconomic conflicts and trade-offs: high inflation and high real interest rates stunting private investment.

To be compatible with the adjustment program, the public sector accounts must incorporate: (1) a critical level of public investment necessary to complement private investment in the recovery of growth; (2) tax reforms that do not create new distortions; (3) reduced borrowings from domestic capital markets to avoid crowding out private investment; (4) a level of inflationary financing compatible with a moderate inflation rate—one that does not generate uncertainty and misallocation of resources; and (5) a time profile of refinancing of external interest compatible with an eventual reduction of the external burden. This is a difficult agenda.

How then can external financing assist the fiscal adjustment? First, increases in public saving must be achieved by efficiently raising tax revenues and cutting government consumption that cannot be defended on efficiency or equity grounds. To be permanent and avoid reversals, such measures require deep institutional reforms. Second, domestic financing of the deficit must be cut quickly, so as to stop crowding out the private sector and reduce the inflationary pressures stemming from borrowing from the central bank.

But it takes time to increase public saving efficiently, while the need to cut domestic financing is urgent. It is here where external financing plays a critical bridging role by allowing progress made in fiscal saving to be translated immediately into lower domestic financing of the deficit. As public saving rises further, foreign financing can be gradually reduced to avoid an unsustainable buildup of external debt. In managing this process, there is a trade-off between the crowding out and inflationary effects of domestic financing, and the future burden of external interest payments arising from foreign financing.

Improvements in efficiency

The success of an adjustment program hinges crucially on reforms aimed at improving the efficiency of resource use and the productivity of investment. These permit a higher growth rate out of the same level of investment and imports. Many of the reforms discussed earlier have such effects. Trade reforms move resources into sectors that generate or save foreign exchange more efficiently. Financial sector reforms and the elimination of regulations that prevent entry into specific sectors and activities allow resources to move where the productivity of capital is higher. Removing quantitative allocations and licenses moves resources previously devoted to "rent seeking" (seeking income from privileged access to controlled services or goods) into true productive activities. Lowering inflation enhances the informational content of prices, thereby improving resource allocation. The same is true of reforms that raise the productivity of public investment; prestige or national security arguments for inefficient public investments can no longer be justified.

External financing can help by allowing a better redistribution of the gains and losses of these reforms among members of society and over time. For example, decontrol of agriculture or food prices to improve producer incentives might generate strong adverse reactions among urban consumers, but these might be counteracted quickly by targeted food programs supported by external financing. Privatization or restructuring of inefficient public enterprises might require significant layoffs of personnel, along with significant compensation payments and retraining programs.

Graphical exposition

Another way to look at these delicate adjustment issues is by visualizing the manner in which external financing and domestic policies interact over time. Chart 1 shows the adjustment required to eventually lower the ratio of external interest payments to GDP while maintaining a minimum growth of output and consumption. This calls for a reduction in the ratio of the current account deficit to GDP and a slower growth of debt than of GDP.

The analysis starts by specifying a growth rate of output—in this case, 5 percent per year—that can be achieved given the past history of the country and given a restoration of investment and import levels, as well as an improvement in the efficiency of resource use. Next, the investment requirements as a fraction of GDP are set, in light of the efficiency of resource use (the ICOR), keeping in mind that this level can always be lowered if domestic policies improve. On top of these requirements, there is the need to make interest payments on the external debt. The sum of the investment requirements and external interest payments is shown as the "resource requirement" line, and the difference between this line and domestic savings is the current account deficit (shown as the dotted area).

In order for the current account deficit/GDP to decline, the economy has to generate a critical level of saving surplus and a matching export surplus. For a given investment level, the saving surplus will increase only if the saving rate goes up. For this to happen though, consumption has to grow at a slower pace than GDP, but sufficiently high to allow for some growth in per capita consumption. On the other hand, because GDP growth requires a minimum growth of imports, exports will probably have to grow faster than GDP.

We have here a razor-edge problem: If consumption and output growth are set too high, the current account deficit may become too large to permit a movement toward a lower interest payments/GDP ratio. But if GDP growth is set too low, it will be difficult to achieve an increase in the domestic saving rate while *simultaneously* achieving some predetermined growth in per capita consumption.

The complications do not end there. Chart 1 also shows that a situation might arise where a country cannot reduce the current account/GDP ratio and simultaneously sustain a minimum GDP growth. This could result for a number of reasons: the initial conditions may be too severe (e.g., too high an initial debt/GDP ratio, savings cannot increase because the country has been in recession for too many years and per capita incomes are too low), or the adjustment might be extremely sensitive to movements in exports prices or world interest rates. The dotted upper extension of the "resource requirement" line shows a situation of the latter type. Under these circumstances, a reduction in the stock of debt or interest payments relief would be necessary to allow the current account/GDP ratio to move eventually to a lower and sustainable level (as evident in the right-hand side of the chart).

In addition, there might be situations in which the country could markedly improve its performance. Chart 1 assumes a constant ICOR (i.e., a constant relationship between growth and the investment rate), but we would expect improved policies to change that relationship as time passes, allowing for a faster growth given a fixed level of investment.

To better understand the fiscal adjustment needed to achieve the outcome depicted in Chart 1, it is helpful to look at Chart 2, a close replica of Chart 1, but with one important difference: the public sector can also borrow domestically. The objective now is not only to reduce external borrowing but to reduce do-

External and internal adjustment with a "5%" GDP growth

Chart 1. The external and internal adjustment

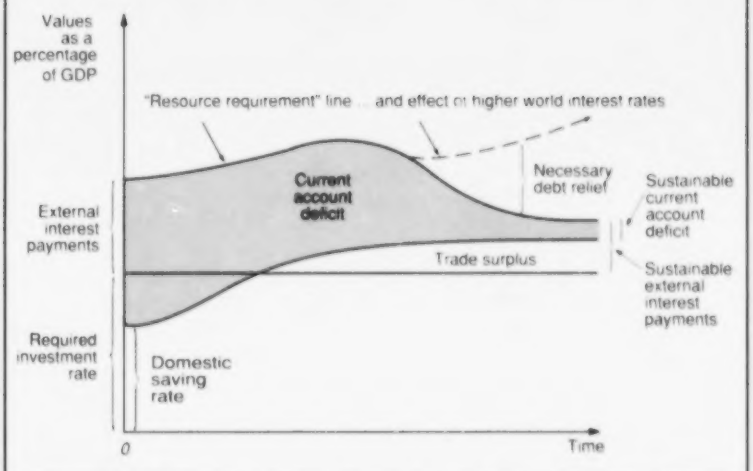
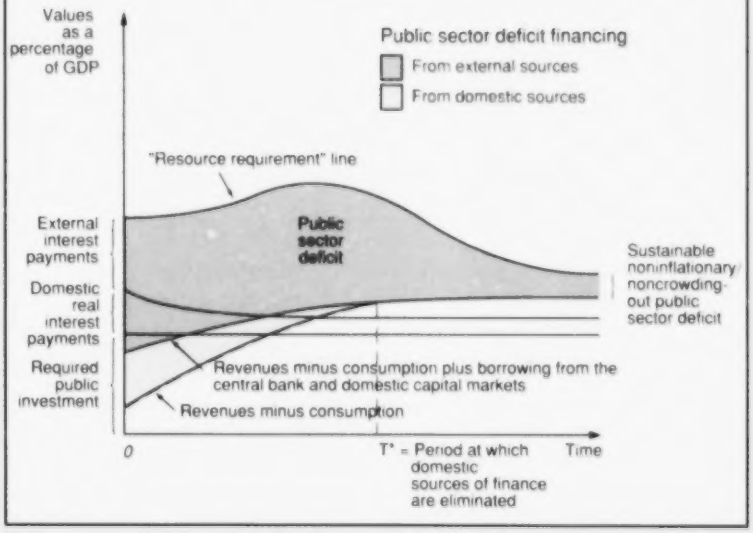


Chart 2. Adjustment in the public sector


Values as a percentage of GDP
Public sector deficit financing
From external sources
From domestic sources
"Resource requirement" line
External interest payments
Public sector deficit
Sustainable noninflationary/ noncrowding-out public sector deficit
Domestic real interest payments
Required public investment
Revenues minus consumption plus borrowing from the central bank and domestic capital markets
Revenues minus consumption
0
T* = Period at which domestic sources of finance are eliminated
Time

mestic borrowing and to do so more quickly. This is essential if the economy is to be stabilized and the crowding out of private investment is to be stopped.

Chart 2 shows the public investment rate necessary to achieve the 5 percent growth plus the levels of external and domestic interest payments that have to be served—the "resource requirement line." To finance it, the government generates a surplus of revenues minus consumption (excluding interest payments). As long as those resource requirements are higher than that surplus, the public sector has a deficit (the overall shaded area) that is financed by borrowing externally and domestically.

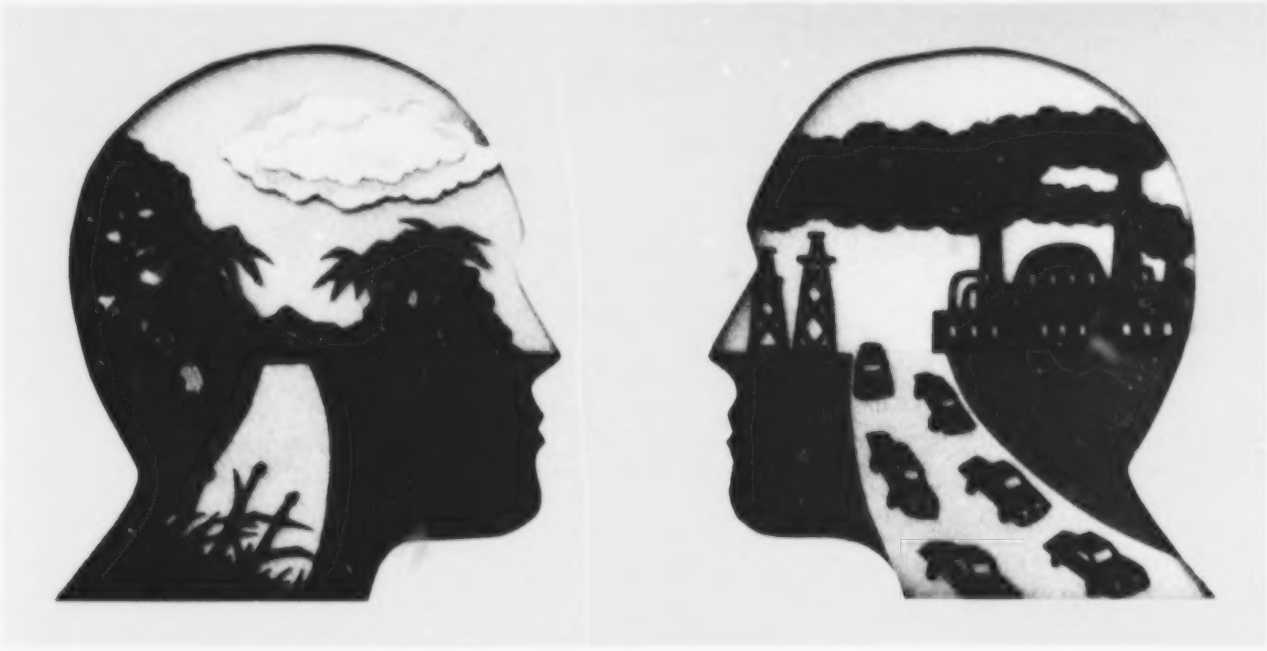
The adjustment shown aims at quickly eliminating (by year T*) all public sector domestic borrowing. For that purpose, government revenues must increase sharply and government consumption must be reduced quickly, using external borrowing to finance the "transition"—that is, all progress in public saving is translated into lower domestic borrowing. This transitional role of external financing allows the public sector to increase its saving efficiently, particularly if this calls for institutional changes requiring time.

We can see in these charts a number of the critical trade-offs and links between the debt problem, deficit financing, and stabilization. Cutting external financing too quickly in order to reduce the growth of debt means that a higher share of the deficit must be financed from domestic sources. The resulting inflation and low private investment will stunt growth and the possibility of servicing debt. At the same time, however, too much reliance on external financing can make the growth of debt explosive. The adjustment must be designed so that foreign financing complements the stabilization program and is consistent with a decline in the debt/GDP ratio. It can provide countries the necessary time to reduce their budget deficit to levels that can be sustained and to rely less on foreign financing.

Conclusion

This analysis highlights the strong complementarities between domestic reforms and external financing in the adjustment process. Sound domestic reforms without sufficient external financing may jeopardize the adjustment process by unduly reducing consumption levels in the short run, and thereby undermining the political sustainability of the program. On the other hand, external financing without sufficiently strong domestic reform would simply add to debt accumulation without enhancing the long-run growth prospects of the country. ■

Marcelo Selowsky
Chilean, is the Chief Economist of the Bank's Latin American and Caribbean Region. He holds a PhD from the University of Chicago and taught at Harvard.



Public Policy and the Environment

Governments must consider the possible impacts of their environmental policies on key macroeconomic balances

Kenneth Miranda and Timothy R. Muzondo

Environmental degradation—ranging from soil erosion, desertification, and air pollution, to the shrinking of the ozone layer, pollution of the world's oceans, global warming, and deforestation—is increasingly drawing interest from the international community. In large part, this has resulted from a growing awareness of the linkages between economic activities and the environment and the desire to ensure that the design of economic policies takes due account of environmental concerns. National governments, international organizations, and nongovernmental organizations are now actively trying to develop and adopt measures that would begin to address these rather serious problems.

In spite of the large volume of research on environmental issues undertaken over the last two decades, important gaps remain on the relationships between economic activities and the environment, the possible impact of economic policies—both macroeconomic and structural—on the environment, and the implications of structural environmental policies on macrobalances. This article raises some of those issues, highlighting that inevitably difficult trade-offs will arise, forcing governments to weigh the short run against the long run, as well as certain economic objectives against preservation of the environment.

Causes of degradation

Excessive environmental damage, whether national, transnational, or global in nature, is generally rooted in either market or policy failures. Broadly speaking, market failure exists when social costs differ from private costs (or benefits). Such failures may reflect the existence of spillover effects, unpriced resources, absent or thin markets, excessively high transaction costs that discourage otherwise beneficial exchanges, lack of information, technical uncertainty, the public good nature of many environmental resources, or a lack of property rights. Under such circumstances, overconsumption and excessive depreciation of environmental assets will occur, thereby creating a potentially serious threat to the sustainability of a local—or even global—ecosystem.

In the absence of measures to compensate for such failures, the harmful side-effects of many industrial activities may not be considered, thus leading to an excessive degradation of air or water quality, for example. On an international scale, when transaction costs are high or property rights are poorly defined, transnational spillovers (e. g. , when acid rain affects the environmental quality in a bordering country) or international spillovers (e. g. , when there is global warming or depletion of the ozone layer) may play a dominant role in the overconsumption or depreciation of mutually shared environmental assets.

Policy failures—particularly at the microeconomic level—may also create the same sort

of threats. These might arise because governments leave a vacuum, that is, do not redress market failures through legal, regulatory, economic, or other means, when it is clearly feasible. Or governments might actually magnify existing market failures. For example, agricultural input subsidies in many developing countries and agricultural price supports in many developed countries may encourage chemical fertilizer- and pesticide-intensive forms of farming, with adverse impacts on water resources, nontargeted animal populations, human health, and the long-term productivity of soil resources. Or, the setting of forestry concession, stumpage, and improvement fees, which in combination are below true scarcity values, may lead to levels of logging above long-run sustainable yields.

Given the existence of these market and policy failures in most countries—and the fact that for some, these failures raise questions about the sustainability of growth and development over the long run—governments are increasingly finding that they cannot ignore these linkages. The challenge for them is twofold: to minimize the possible adverse effects of macroeconomic policies on the environment and to structure environmental policies so that they do not impair a country's macroeconomic performance.

Macroeconomics and the environment

Efforts to achieve economic growth and full employment in the long run, and price stabilization and a viable balance of payments in the short run, hold the potential to enhance or degrade the environment and natural resource management in several ways. For example, the pursuit of high rates of economic growth may, depending on the economic characteristics of the economy, cause faster-than-sustainable rates of depletion of natural resources and increased waste emissions and energy use—a key factor underlying air pollution. On the other hand, rapid economic growth can generate the resources by which a government can finance environmental protection policies. In Ecuador, for example, revenues generated in the high growth eco-tourism sector, particularly fees charged to visitors to the Galapagos Islands, have been earmarked for nature park conservancy across the country.

It is often argued that the environmental impact of the choice and mix of macroeconomic instruments, such as monetary, fiscal, and exchange rate policies, should be taken into account. However, in many cases the environmental implications of these policies are ambiguous. For example, a devaluation of the exchange rate aimed at improving the competitiveness of a country's exports can encourage overexploitation of the country's natural resources—beyond the level that is sustainable in the long run. At the same time, such a devaluation may also increase domestic prices of imported petroleum products and may reduce air pollution as consumption of those products falls, as well as possibly reduce urban bias, and, hence, associated pollution and congestion problems.

The fact that the use of a macroeconomic instrument might result in some adverse environmental effects does not, however, mean that its use need be compromised. In the case discussed above, a devaluation is generally considered the most direct and efficient instrument for achieving balance of payments objectives. The problem of overexploitation of natural resources, if any, that could result as a by-product of the exchange rate change is best compensated through the application or adjustment of appropriate microeconomic instruments. For example, a government might increase rates of mineral taxation to offset the potential impact of an exchange rate devaluation on nonrenewable resource exploitation. Thus, by and large, it is more a question of the appropriate matching of policy instruments with policy objectives. Market and policy failures are essentially microeconomic in nature and are thus best addressed through the introduction of new—or a recalibration of existing—microeconomic instruments (see article by Gunnar S. Eskeland and Emmanuel Jimenez in the March 1991 issue).

Still another important link between macroeconomic activity and the environment is the national income accounting framework. In recent years, the use of conventional national accounts as an indicator of long-term sustainable economic growth has been increasingly criticized, because the accounts do not reflect diminished potential for future production caused by depletion of nonrenewable resources (see article by Ernst Lutz and Mohan Munasinghe in the March 1991 issue). As a result, measured growth can be illusory, and the prosperity it engenders transitory, if the apparent gain in income means a permanent reduction in the stock of environmental assets. In response to these concerns, a number of countries, including Norway and France, are now establishing resource accounts to supplement their economic accounts.

Environmental policies and macrobalances

Despite an extensive literature on the best way to design and implement various structural environmental policies, few attempts have been made to link environmental management policies to the broader area of macroeconomic management. Clearly, however, the policies adopted to address environmental concerns could have important macroeconomic implications for output, prices, and employment; the fiscal balance; the monetary accounts; and the balance of payments. These are briefly illustrated below. However, few firm patterns, and hence conclusions, emerge—partly because of the range of possible environmental policies, uncertainties as to their effects, and the widely diverse circumstances of countries in which they would be applied.

Output, prices, and employment. Overall, the level and structure of output, as well as employment and prices, are likely to be altered by the adoption of environmental taxes and subsidies, but the size and scope of these changes will depend upon a number of factors, including the structure of the economy and the mix of policies. For example, the introduction of environmental taxes may have short- and long-term effects on national output. Taxing an environmental spillover caused by a given market activity will reduce the output of such an activity. At the same time, the output of some other market activities, which previously suffered because of the environmental externality, could increase, thereby partly offsetting the reduction in measured economic output. However, if no other market activity were suffering previously (say, only natural beauty or air quality was affected), then there might not be an offset, and measured national income might actually decline, even while welfare was improving.

The introduction of environmental taxes could also lead to a once-and-for-all increase in the price level in the short run, as the "costs" contained in the taxes are passed through into the prices of final goods (assuming that monetary policy accommodates the price level pressures). However, fiscal revenues from environmental taxes could be used to finance offsetting reductions in other taxes. As far as employment is concerned, the taxed sector is likely to contract and, in so doing, release resources, including labor. In the short run, therefore, this may result in a temporary increase in the unemployment rate until other sectors of the economy absorb the labor and a new structure of production emerges.

Subsidy reform can also have certain output effects. A reduction of energy subsidies, for example, will reduce the bias toward energy intensity in the industrial sector and will have important output implications, as previously energy-intensive sectors of the economy attempt to adjust to new energy prices. A con-

traction of these sectors will also result in temporary labor dislocation and, to the extent that firms must raise prices, lead to once-and-for-all price-level effects. A number of Eastern European countries, including Poland and Hungary, are currently undergoing such a transition, in response to the realignment of petroleum prices to those prevailing in the world market.

Fiscal balance. As might be expected, the adoption of environmental policies can also have important budgetary implications, but here, again, a case-by-case approach must be taken. For example, the introduction of environmental taxes, and even pollution permits, will certainly raise additional revenues (the actual rate, however, should be based strictly on what is needed to address the environmental concern), whereas environmental subsidies or tax expenditures to compensate those who voluntarily reduce the amount of pollution they generate would adversely affect the fiscal balance—as, for example, with tax credits allowed to households and firms undertaking certain energy conservation practices under US tax law in the late 1970s and early 1980s. In cases where deforestation is a major problem, some forms of energy subsidy, which could be justified as a second-best solution, may need to be retained on a targeted but transitional basis. Finally, the changes in the levels and structure of output, employment, and prices, as noted earlier, might also affect the revenues generated by the existing structure of taxation.

Monetary accounts. In this economic sector, the adoption of environmental policies will most likely have, at best, some indirect effects and these could well be insignificant in most cases. Thus, for example, to the extent that the reform of subsidy policy, the introduction of environmental taxes, and the sale of pollution permits improve the overall fiscal position, the extension of credit to the government sector might be curtailed. On the other hand, the granting of environmental subsidies, effected via the budget, may worsen the fiscal position, necessitating an expansion in credit to the government sector. If a government decides to allocate a given amount of credit to agents undertaking certain prespecified forms of environment-improving activities at a preferential rate of interest, such environmental subsidies may have direct credit policy implication.

Balance of payments. For a country's external accounts, the implications of environmental policies in the short run may be both direct and indirect, necessitating a detailed, country-specific examination. The introduction of environmental taxes, for example, might make exports and import-competing goods less competitive, especially if other countries choose not to impose similar taxes. Two cases, however, need to be distinguished. Where an externality is national in nature (i.e., contained within the borders of a country), the deterioration of the balance of payments will be offset by an increase in the value of the country's natural environment. In this instance, the loss of external competitiveness may be explicitly accepted as the price of improved environmental quality. But where an externality is transnational (e.g., pollution into a river that passes through several countries)—or has global implications (e.g., the use of highly polluting forms of energy such as brown coal)—the incentive to implement environmental policies could be attenuated, because the country carrying out such a policy would suffer a loss in external competitiveness, but would be unable to appropriate the increase in the value of natural capital that accrues transnationally or globally—for example, cross-border pollution between Eastern and Western European countries.

This loss of competitiveness, however, can be reduced in certain situations. First, environmental taxes and pollution permits may not necessarily be implemented in the traded goods sector, and hence their external sector incidence may be reduced. Second, even if environmental policies directly affect a traded good, the loss in competitiveness in the market in which the tax is imposed may in part be offset by an improvement in the competitiveness of other traded goods that formerly suffered from the externality, thereby resulting in an altered structure of the balance of payments. Thus, in Madagascar, recent efforts to preserve natural habitats, such as rain forests, and simultaneously promote ecotourism may result in lower foreign exchange receipts from, for example, logging activities, but greater receipts from tourism.

The reform of subsidies can have direct as well as indirect implications, as well. On the direct side, cutbacks in energy subsidies can lower import levels or, if the country is a producer, lead to higher exports. Similarly, reductions in pesticide and chemical fertilizer subsidies can lead to lower import levels of the products themselves, or of imported inputs for their production—although any short-run reduction in agricultural output resulting from a reduction of such subsidies may necessitate an increase in food imports. On the indirect side, any changes in the level and structure of production in the economy resulting from the adoption of environmental policies may also have significant implications for the level and composition of imports.

Conclusion

The introduction or strengthening of measures aimed at improving environmental management can have far-reaching implications for key macroeconomic balances. However, no generalization is possible. In some cases, the overall macroeconomic balance implications of such policies could be supportive of a country's macroeconomic stabilization and adjustment efforts, while in other cases the net outcome may be unclear. In many other cases, however, important policy trade-offs, especially with regard to growth, price level, employment, fiscal balance, and balance of payments objectives, are likely to occur. When such is the case, it may, nonetheless, be possible to mitigate some of the adverse macroeconomic balance implications of environmental policies. For example, the negative balance of payments implications of resource sector taxes could be counteracted by the beneficial balance of payments effects of reforming subsidy and tax incentive policies in support of environmental objectives.

In the fiscal sector, the worsening of the fiscal balance, as a result of providing environmental subsidies or the implementation of environmental conservation projects, could be counteracted by the use of revenues from appropriately designed environmental and resource sector taxes as well as general tax reform. Finally, while the adoption of environmental policies would in general alter the path of measured national output through time, it may be possible to adopt some nonenvironmental structural policies concomitantly, so as to minimize this impact in the short run. ■

Kenneth Miranda
a US national, is an Economist in the Government Expenditure Analysis Division of the IMF's Fiscal Affairs Department. He holds a PhD in economics from the University of Chicago.

Timothy R. Muzondo
Zimbabwean, is Senior Economist in the IMF's Fiscal Affairs Department. Previously, he taught at Toronto, York (UK), and Queens (Canada) Universities and has served as a senior government official in Zimbabwe.

Global Warming and the Developing World

Faced with great scientific uncertainty on this much debated topic, developing nations should pursue those energy options that make good economic as well as environmental sense

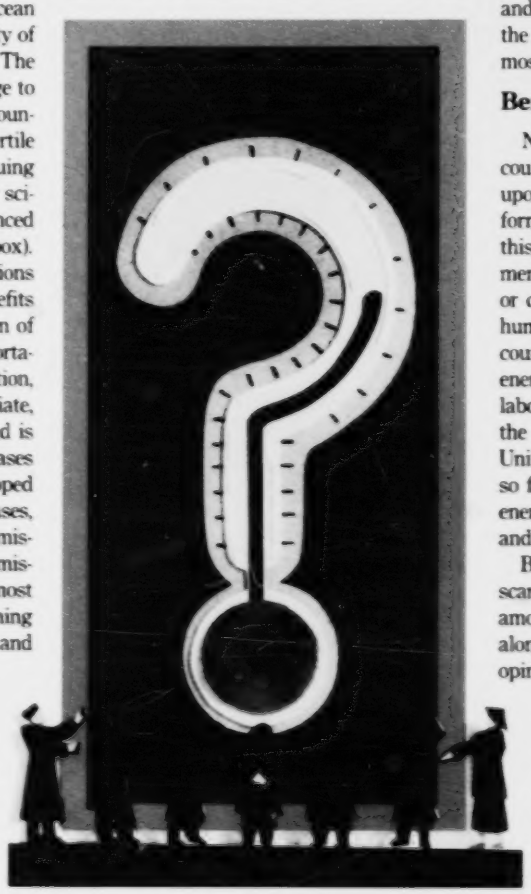
Anthony A. Churchill and Robert J. Saunders

In recent years, nations all over the world have become increasingly troubled by the buildup in the atmosphere of "greenhouse" trace gases. These gases—primarily carbon dioxide (CO_2), methane, nitrous oxides, ozone, and chlorofluorocarbons (CFCs)—it is feared, could trigger a significant warming of the earth's surface, with potentially harmful, even devastating, social and economic consequences for mankind. Scenarios abound of vastly changed patterns of rainfall, different temperature levels, radically changed ocean currents, increased frequency and intensity of natural disasters, and rising sea levels. The ramifications could include severe damage to vegetation in some areas, parts of entire countries being submerged under water, fertile lands being turned into deserts, and ensuing mass migrations. But at this stage, clear scientific evidence confirming such an enhanced greenhouse warming is still lacking (see box).

Given this uncertainty, how should nations respond? One difficulty is that the benefits from activities that lead to the production of these gases (low cost power and transportation, manufacture of cement, refrigeration, waste disposal, etc.) are localized, immediate, and clear, but the costs are not. A second is that although most of the greenhouse gases are being generated in the developed world—of the two most prominent gases, only 25 percent of fossil fuel-related CO_2 emissions, and less than 10 percent of CFC emissions, come from developing countries—most of the *increases* in emissions are now coming from the third world, due to economic and population growth.

At this stage, most developed countries have already begun debating domestic policy options for reducing greenhouse gas emissions. In fact, they are now spearheading efforts to craft a global climate convention, which would be ratified at the June 1992 UN Conference on the Environment and Development. However, it is the developing nations that could be the most vulnerable to any significant global climate change, because a greater percentage of their GNP originates in agriculture and, given resource constraints, they would be the least able to adapt.

This article takes a look at the spectrum of options open to all countries, but concentrates on the roles that developing countries can play in addressing energy-related greenhouse issues. It concludes that even with the tremendous uncertainties surrounding the changes that might be brought about by global warming, there are clear actions to take and policies to follow aimed at diminishing risk while simultaneously carrying out research that reduces the uncertainties. In fact, developing countries now have a major opportunity to increase incentives for sustainable energy resource use, shift to cleaner alternative fuels and technologies, and improve efficiency in energy production, distribution, and end use. Such initiatives not only address the greenhouse gas problem but they also, in most instances, make good economic sense.



Benefits clearly exceed costs

No matter which path is chosen by a country, development ultimately depends upon the effective substitution of various forms of energy for human labor. Whether this energy is used to move water, make cement, heat or cool a building, operate a truck, or cook food, it is an input into making the human condition more bearable. Developing countries, almost by definition, consume little energy other than that generated by human labor—even Brazil has only about one tenth the per capita energy consumption of the United States or many European countries—so for them, the future hinges on expanding energy use in the whole range of economic and social activities.

But this requires capital, a commodity in scarce supply in the third world, and large amounts of it. For electric power supply alone, the annual investment bill for all developing countries is projected to be up to $100 billion per year—with China, India, and Brazil accounting for nearly half—and this does not include the large additional investments that will be needed to consume this energy (e.g., motors, vehicles, appliances, air conditioning, and light bulbs). Moreover, the projected demand for investments in

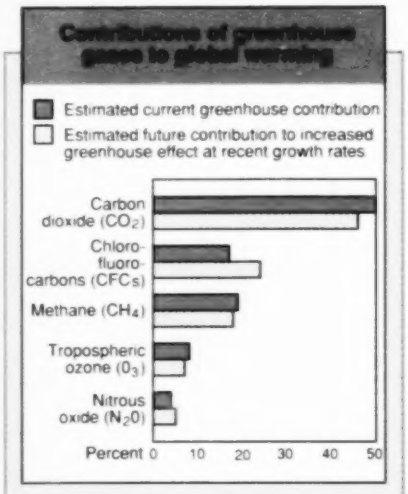
oil, gas, and coal are at least of similar orders of magnitude. Not surprisingly, therefore, developing countries are increasingly placing a high priority on promoting a more efficient use of existing and new resources. That is, they are choosing those options where undertaking activities, or pursuing policy initiatives, will yield unambiguous economic benefits that exceed costs, even without having to include the uncertain benefits from the accompanying reduction of greenhouse gases and other pollutants. Specific sectors that are prime candidates for action include energy, industry, and transportation.

Energy sector. This sector is by far the largest single contributor (accounting for roughly half) of greenhouse gas emissions, making measures that improve efficiency a high priority. In developing countries, payback periods on energy efficiency investments tend to be much shorter, and rates of return higher, than for investments designed only to increase energy supplies. Moreover, the reduction of energy inputs per unit of useful output almost always has a positive effect on the release of greenhouse gases. In many developing countries, efficiency gains in the order of 20 percent could be achieved with relatively minor investments in upgrading existing capital stock, and further substantial gains could often be obtained with energy-efficient new investment. But this is by no means a simple task, as attested to by the current existence of large inefficiencies in both energy supply and end use. The major means to reduce the resource wastage will come through better pricing, more efficient consumption and supply, and cleaner alternative fuels and technologies.

Pricing. First and foremost, energy pricing must receive greater attention. In most developing countries, energy prices, other than for some petroleum products, do not cover economic costs, meaning that energy consumers—many of whom produce other goods—do not face prices that encourage them to use energy efficiently and select the right form of energy and energy-using equipment for their needs. In the case of electricity, for example, major industrial countries charge about 8 cents per kilowatt hour, double that of the average developing country—and the cost-plus pricing of protected energy-consuming industries leaves little incentive for reducing costs.

Energy use. The efficiency of energy consumption could be increased in many developing countries—and if energy prices reflect real costs is justified on purely economic grounds—through the use, for example, of more efficient motors, light bulbs, refrigerators, cars and trucks, water heaters, and charcoal kilns. If the energy requirements of everything from industrial boilers to stoves to light bulbs could be lowered, it would significantly slow the growth in overall energy demand and greenhouse gas emissions, in turn reducing the need for large new investments in energy supply.

But to date, many countries have found it difficult to make major progress on this score, and developing countries, in particular, have run into obstacles. The reasons appear to be many: imperfections in the market, such as prices that do not reflect real costs; trade restrictions; inadequate consumer information on costs and alternatives; social mores on how things should be done; and lack of available technologies. Nevertheless, new and evolving energy end-use efficiency technologies are promising, and along with making certain energy prices reflect real costs, there is a need to continuously re-evaluate the economic, technical, and social feasibility of their implementation. Other possible avenues include initiatives on commercial lighting, appliance labeling, information programs, and building codes, drawing on technical assistance, where needed.


Contributions of greenhouse gases to global warming
Estimated current greenhouse contribution
Estimated future contribution to increased greenhouse effect at recent growth rates
Carbon dioxide (CO_2)
Chloro-fluoro-carbons (CFCs)
Methane (CH_4)
Tropospheric ozone (O_3)
Nitrous oxide (N_2O)
Percent 0 10 20 30 40 50
Source: World Bank.

Energy supply. Here, too, the record is disappointing, as reviews of the performance of developing country power utilities over a 20-year period point to a general trend of increasing inefficiency. Losses in the delivery of electricity are commonly greater than 20 percent—sometimes approaching 40–50 percent—and while some of this represents theft and inadequacies in metering and billing, it is clear that technical losses in networks are high. Furthermore, in many countries, the availability and thermal efficiency of electricity generation tends to be low, especially when such generation is based on old coal technology. Losses in petroleum refining are as high as 5 percent, whereas they could be as low as 0.5 percent in a well-run refinery. Even charcoal kilns often have efficiencies as low as 10 percent, despite the fact that they can easily be designed to operate three times more efficiently.

Fortunately, the costs of reducing these high energy losses tend to be low relative to the large benefits gained. A small investment in improving efficiency in the power sector, for example, might provide as much incremental supply capacity as three to ten times as much spent on new capacity. Realizing such improvements involves a strategy that (1) reforms the legislative and regulatory arrangements to promote increased competition among energy suppliers, partly by boosting the private provision of risk capital and private sector participation in energy supply through both cogeneration and stand-alone facilities; (2) strengthens the accountability and the internal organizational structure of energy supply enterprises; and (3) shifts investment resources at the margin from increasing capacity to improving efficiency in both supply and end use.

Alternative fuels and technologies. One of the most promising alternative fuels is natural gas, whose CO_2 emissions are much lower than those of other fossil fuels. It has been discovered in over 50 developing countries, and proven reserves are now larger than those for oil. At the same time, its development has become increasingly attractive on economic grounds, thanks to the new low capital cost, short lead time, and high energy efficiency turbine technology. Yet natural gas is not being exploited at anywhere near its potential, due to the underpricing of competing fuels and complex issues relating to legislation, regulation, ownership, institutional structure, fiscal regimes, financing, and information flows. Compounding matters is the fact that few developing countries have much experience with natural gas, and the experience of the developed ones tends to be inappropriate. In most industrialized nations, the natural gas market developed slowly, largely in response to industrial and residential demands, whereas in many developing countries, the industrial and residential markets are too small, and most of the demand will be for power generation.

Another alternative may well be hydropower, where there is still substantial development potential. Two advantages of this technology are its low operating costs and the fact that hydropower stations are less complex to operate than other types of electric

power stations. Moreover, in recent years, the outlook for its use has improved. With the advent of high voltage direct current transmission lines, many sites once considered too remote from load centers are now becoming economically viable. The establishment of suitable legislative or regulatory frameworks in some countries has also made privately owned mini-hydro schemes more attractive. But there are local environmental disadvantages to hydropower projects, and while a number of countries have improved their hydro policies and practices to mitigate environmental and resettlement problems, much remains to be done.

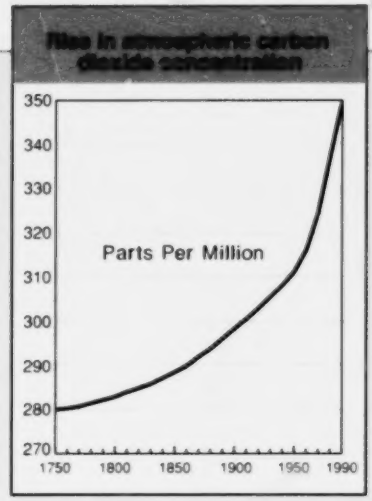
A third prominently mentioned alternative is renewable energy sources—such as biomass (plant materials and animal waste), solar, and wind—since they usually do not contribute significantly to the net emission of greenhouse gases. Their use is economically justified in selected developing country applications, and although they currently can only meet a fraction of total demand, they provide one of the few viable alternatives for populations in remote areas. Studies in India, Ghana, Indonesia, and Côte D'Ivoire, for example, show that cogeneration with bagasse from sugar mills, and wood wastes from saw mills and plyboard mills, is usually economically justified. Photovoltaics for health services, water pumping in remote areas, solar water heaters in the commercial sector, and small hydropower stations in selected rural locations also frequently make economic sense.

Industrial sector. Most of the greenhouse gases released by industry are the result of energy use, rather than specific industrial processes. Thus, most of the measures suggested for improving the efficiency of consumption in the energy sector also apply here, with the added bonus that energy-intensive industries tend to be more sensitive to price signals than small domestic consumers. The actual degree of sensitivity depends partly on the competitive structure of the industry; those companies that are highly protected or lack competition will be able to pass price increases and costly inefficiencies on to consumers.

Transportation sector. This sector contributes greenhouse gases (and local air pollution) mostly through the burning of motor fuels. But with the possible exception of compressed natural gas for vehicle fleets, few available technologies have the potential to quickly ameliorate the situation. It is likely that more efficient vehicles and cleaner fuels will be developed, although at today's prices and production levels, alternative fuels are generally more costly than existing oil-based ones. Even so, there are initiatives that should be undertaken on economic, as well as environmental, grounds. Improving urban transport efficiency is particularly important—see the dismal reality of congested Cairo, Mexico City, Lagos, and Bangkok. The failure to adequately transfer the costs of scarce urban street space to vehicle users through congestion charges, vehicle registration fees, and parking fees has resulted in large and quantifiable economic costs without including the negative environmental side effects. Measures taken to improve the operation of urban transport systems—such as enforcing traffic laws, improved signalling, traffic controls, and road maintenance, or displacement of the automobile by buses—can significantly reduce the

What does global warming mean?

Much of the interest and controversy surrounding the "greenhouse" effect has surfaced in recent years, as a growing number of scientists have suggested that greenhouse trace gases could possibly raise world temperatures between 2 and 5 degrees Celsius (approximately 3 and 9 degrees Fahrenheit, respectively) by the middle of the next century. If this happened, both the magnitude and the rate of change would be unprecedented in mankind's history on earth. Over the last century, the earth's temperature is thought to have risen only about 0.3 to 0.6 degrees Celsius, and it probably has not varied more than 1–2 degrees Celsius in the last ten thousand years, or more than 6–7 degrees Celsius in the last million years. In fact, the development of the human social and cultural infrastructure over the last 7,000 years has taken place entirely within an average global climate neither 1 degree warmer nor colder than the climate of today.



Source: World Bank.

But how much do we actually know about the climatic changes ahead? One certainty is that various atmospheric trace gases—mainly carbon dioxide (CO_2), methane (CH_4), tropospheric ozone (O_3), and nitrous oxide (N_2O)—trap some of the radiant heat that the earth emits after receiving solar energy from the sun, much as panes of glass hold heat inside a greenhouse. This phenomenon is normal to earth and essential to life. Without it, the earth would be more than 30 degrees Celsius cooler, and life as we know it, would not exist. The industrially produced halons (CF_3Brs) and chlorofluorocarbons (CFCs) have only been added to the naturally occurring greenhouse gases during the past 30–60 years.

Another certainty is that greenhouse gases are accumulating rapidly—and have been since the beginning of the Industrial Revolution—changing the chemical composition of the earth's atmosphere. Carbon dioxide is by far the most important and is expected to remain so in the years ahead. But not all of these gases are created equal, in that they vary sharply in terms of their capacity to absorb infrared radiation. For example, using CO_2 as the baseline unit for absorptive capacity (letting CO_2 equal 1), a single unit of methane can have as much as 30 times greater greenhouse impact than CO_2, and the CFCs can have an impact of up to 15,000 times greater.

What is not known is what this greenhouse gas buildup portends for the future. Scientists cannot agree on exactly how much the earth has warmed over the past century, to what extent, if any, greenhouse gases are to blame, and how much warming—and when and at what rate—we can expect. The complex interactions among clouds, oceans, trees, volcanoes, ice, snow, dust particles, water vapor, aerosols, greenhouse gases, and the sun, continue to preserve a sense of mystery, defying reliable computer simulation. Scientists also cannot state with any certainty what a warmer earth would mean for mankind. For example, will plants do better thanks to more CO_2, or will rising temperatures translate into poorer soil moisture, changing rainfall patterns, and rising ocean levels? Will cloud cover increase, actually helping to mitigate the greenhouse effect? Scientific breakthroughs will occur in the years ahead, but for now all long-term climate prediction scenarios should be seen more as educated guesses than literal predictions.

consumption of energy per mile traveled.

Insurance makes sense

The second type of options involves those where the developed countries will need to take the lead. In this part of the spectrum, while either the costs or the benefits of the initiative are uncertain, the costs of the action are thought to be low relative to the potential high costs that might be incurred by doing nothing—much like buying insurance. In the case of the greenhouse effect, the nations of the world will have to cooperate to insure themselves. But even self-insurance is difficult when the distribution of the benefits over time and space is unknown. If the costs turn out to be small relative to potential, albeit uncertain, benefits, expeditious ways can be found to encourage participation of all parties.

Phasing out CFCs. One obvious insurance option is phasing out, or substituting for, CFCs—a gas that both depletes the ozone layer and contributes disproportionately to the greenhouse effect. The need to do this is all the more urgent given that if nothing changes, developing countries are expected to sharply increase their use of CFCs, matching the present contributions of the United States and Western Europe combined by the end of the century. CFC use in refrigeration (which currently accounts for a 30 percent share) is likely to grow the fastest. In China, for example, the percentage of homes with refrigerators went up from almost zero in 1980 to nearly 2 percent in 1985—reaching 15 percent in some cities. Tsinghua University forecasts a 50 percent saturation in Chinese homes by the year 2000, equivalent to nearly 125 million refrigerators.

Until now, CFCs have been mostly produced and consumed in a few developed countries. As a result, it should be possible for the higher income countries to bear most of the costs of eliminating CFCs, while providing the relatively small financial incentives needed to compensate the poorer countries for incurring higher costs for non-CFC refrigerants, foam blowing agents, aerosols, and cleaning agents. The Montreal Protocol to phase out the use of CFCs, along with other more recent agreements, are a move in this direction. Also, since most developing countries produce relatively outmoded refrigerators and other appliances using old, inefficient technologies, an increased emphasis on the transfer of technology from industrialized countries will be critical.

Research. Of the other insurance options now available, research should have a high priority. But as with CFCs, it is difficult to link those paying the costs with those receiving the benefits. This is particularly true of research of a more basic climatic nature, in that the benefit will be in the public domain. Fortunately, the cost of such work is relatively low, making it possible for developed countries to act for the good of the global commons without undue sacrifice or risk. Then, too, financiers will have the potential to capture at least short-run gains from other types of research, such as the development of safer, less costly nuclear power, further improvements in gas turbine technology, the design of more energy efficient batteries, photovoltaic panels, light bulbs, electric motors and motor vehicles, and the creation of more robust species of trees and food crops.

Uncertainty limits action

The final set of options embraces those areas where benefits are uncertain and the costs of action are so high that developing countries simply cannot be expected to take any initiatives at this time. Among these are the following three:

Phasing out coal or freezing CO_2 emissions. This is highly unlikely in the developing country case unless the major uncertainties regarding the magnitude, timing, and distribution of any benefits are reduced and large benefits pinpointed. People would have to be convinced that a climate-related disaster is imminent or highly probable, or a dramatic new energy supply technology would have to emerge.

Large-scale reforestation programs. Biomass, particularly in the form of wood, is partly seen in the greenhouse gas context as an absorber of CO_2. However, given today's fossil fuel use and its projected growth, an enormous amount of additional land would need to be devoted to growing forests in order to significantly reduce CO_2 levels in the atmosphere. For example, an estimated 2.5 million hectares per year would have to be reforested in order to absorb just the additional carbon emitted annually by recent US fossil fuel consumption—equivalent to an area slightly less than Belgium. Reforestation at this rate over the next ten years would result in covering an area the size of the United Kingdom. Annual tree plantings alone would require 6.1 billion seedlings per year, which would be equal to 25 trees planted per capita per year in the United States. In most developing countries, economic, logistical, management, and political constraints preclude the likelihood of successfully pursuing such a large-scale and costly option. On the other hand, slowing or stopping tropical deforestation through improved land management is in many instances highly cost-effective and should be pursued vigorously.

Nuclear energy. Not surprisingly, the emissions associated with the burning of fossil fuels has rekindled interest in nuclear power. But for developing countries, nuclear power has proven to be a very expensive option—compared with other forms of electric power generation—in terms of financial costs and scarce manpower skills. In addition, governments must wrestle with troublesome security and waste disposal issues. For most developing countries, the current generation of nuclear power technology does not look to be a viable option at the present time.

Future directions

Whether or not the future brings a significant global warming related to the buildup of greenhouse gases in the atmosphere, much work in the areas of energy efficiency, fuel choice, and technology development is economically justified in its own right. Indeed, efficiency issues should continue to be at the heart of developing country energy policy formulation, institutional restructuring, and operations. The usefulness of the various options reviewed here will change as the greenhouse uncertainties (magnitude, timing, distribution, etc.) are reduced, either through research or the passage of time. The international energy community must closely monitor all developments and constantly re-evaluate the best policy mixes. ■

Anthony A. Churchill
Canadian, is Director of the Bank's Industry and Energy Department. He holds a PhD from the University of Washington and has taught at the University of Western Ontario.

Robert J. Saunders
a US citizen, is Division Chief of the Bank's Energy Development Division. He holds a PhD in economics and has published extensively in the areas of water supply, energy, and telecommunications.

Irrigation and the Environmental Challenge

Proper management of water can protect the environment

Shawki Barghouti and Guy Le Moigne

Chief, Agriculture Production and Services Division *Senior Advisor*
Agriculture and Rural Development Department, The World Bank

Irrigation projects are facing increasing challenges from concerned groups that see potential harm to the environment. These groups have recently blocked the construction of major water development projects in India, China, Thailand, and the United States. The reasons given by them are many: dams and irrigation systems, they contend, result in waterlogging, salinity, disruption of water tables, damage to fisheries, plant, wildlife, and water supply systems downstream, and the displacement of people inhabiting areas submerged by the new reservoirs and irrigation schemes.

Up to the early 1970s, environmental costs were hardly considered in the design of irrigation systems. Irrigation schemes were viewed as highly effective means of transforming traditional agricultural systems into commercially oriented and scientifically based productive enterprises; indeed, in the 1960s, water development projects seemed to be a fairly straightforward process. With few exceptions, damming rivers to store water for irrigation, urban uses, and hydroelectric power production was not regarded as seriously detrimental to the environment.

Rising criticisms

It was not until the early 1970s that the trade-offs between relieving today's poverty and hunger through massive manipulation of the water cycle and its natural systems and the attendant environmental and ecological costs of doing so came under scrutiny. Public and private environmental organizations began demanding action and lobbied to enact laws to protect the environment.

As failures of large-scale irrigation schemes to protect and enhance the environment came to light, there was growing skepticism that irrigation and drainage projects could be justified solely on the basis that they provided significantly increased opportunities for food production, trade, water management, flood control, electricity, and sustaining water supplies to growing populations in both urban and rural communities. Those benefits could be offset by damage to the environment and the social disorientation caused by resettlement of affected peoples.

Helping to buttress this growing anti-irrigation bias, weak policies in many developing countries—or lack of a clear direction in water management policy—have encouraged misallocation of water resources, including the use of greater amounts of water than the actual requirements for crops. Widely varying water-pricing policies and inadequate systems and methods for recovery of the cost of irrigation enforce a commonly held fallacy of water application: If a little of it is good, then more must be better. Such inadequate water policies have aggravated the environmental consequences of water projects, especially in areas where problems of water scarcity are dominant, such as the Middle East, China, and India. In many cases, lack of incentives for proper use of water, compounded by technological problems, have adversely affected system performance, resulting in poor maintenance, and leading countries to defer modernization.

Although it is difficult to quantify all the social, environmental, and ecological costs related to human interventions in freshwater systems, it cannot be denied that imprudently developed, badly designed, and poorly managed irrigation schemes have had substantial negative effects on the environment. Irrigation projects do modify the environment by reshaping the land surface and changing its hydrological regime—sometimes with harmful side effects. The construction of dams and irrigation channel networks, while providing water for irrigation and power, affects soil moisture, changes the depth of groundwater, and alters water quality. Often some of these effects show up in even the best-managed irrigation schemes in ways that scientists are just now beginning to understand.

Problems of irrigation

Salinity, resource degradation, and wider damage. Data collected from large irrigated areas in China, Egypt, India, Mexico, Pakistan, the Union of Soviet Socialist Republics, and the western part of the United States indicate that irrigated lands are losing productivity, as a result of progressive deterioration of soil caused by waterlogging and salinity. This "twin menace" of waterlogging and salinity can be largely attributed to lack of drainage and poor water management. Productivity on about 25 million hectares (about 7 percent) of the world's irrigated land is seriously affected by these problems, and the salinization of fertile croplands is running between one million and one and a half million hectares a year. The intensification of irrigated cropping, for example, damaged the ecosystem in the rice-growing areas of the humid zones of Asia and led to the salinization of areas in the region's arid and semi-arid zones.

According to a recent study conducted by the World Bank, waterlogging and salinity have reduced yields of major crops by 30 percent, both on the 15 million hectares of irrigated croplands in Pakistan and the 3.5 million hectares in Egypt. In India, about 20 percent of the 40 million hectares of irrigated agriculture is reported to suffer from this problem.

In many parts of Asia, following the lead of Japan, drainage is being introduced as part of a crop diversification program and as a way to control waterlogging and salinity. Studies

of irrigation systems are currently underway in areas that have not maintained a balance between production, water conservation, and environmental protection. But progress is slow.

The environmental damage around the Aral Sea in Soviet Central Asia is a good illustration of the harmful effects of ill-planned irrigation on the environment. Water from two rivers feeding the Aral Sea—the Syrdarya and the Amudarya—was diverted to irrigate about seven million hectares. The 1,450 kilometer-long Karakoum Canal was built to transfer considerable quantities of water from these two rivers toward the Caspian Sea to help develop agriculture in the dry republic of Turkmenistan. Because of this large-scale water transfer, the Aral Sea has begun to die, as water volume has fallen to one third of what it was in 1960. While the Aral Sea has sharply diminished in size, its once fresh water has become increasingly saline, threatening the livelihood of thousands of people living nearby who depend on it for fishing, water supplies, and transportation. Vast salty flatlands remain as the sea pulls back. Strong winds deposit this salty residue on prime agricultural land, not only in the vicinity of the sea, but also as far away as Afghanistan, causing severe ecological damage.

In the Sub-Saharan region, the development of irrigation has raised concern about the environmental consequences of irrigation on upstream swamp and delta regions. For instance, the Niger River and Senegal River swamplands are valuable wintering sites for migratory Western European birds. The rivers' wetland regions support from one and a half to two million head of cattle, and fishermen catch some 100,000 tons of fish annually in the Niger's inner delta.

Before Sub-Saharan irrigation projects move forward, environmentalists say they will need convincing answers to questions on hydrological, economic, and ecological issues relating to these deltas and swamps.

Bilharzia and malaria. Other potential harmful effects of irrigation arise from habitats served by stagnant water in canals and drainage areas leading to public health problems like bilharzia, malaria, yellow fever, and other diseases. People living and working near canal water supplied through irrigation stand an increased risk of contracting such diseases associated with water development projects.

The most serious threat is bilharzia, also known as Schistosomiasis, since the carrier vector is released from an aquatic snail and penetrates human skin that comes in contact with disease-infected water. Bilharzia, which is widespread in the savannah and semi-arid regions of Africa, the Middle East, and South America, is characterized by disorders of the liver, bladder, lungs, or central nervous system, and it affects physical growth and endurance. It has also appeared in Southeast Asia, China, the Philippines, and Sulawesi, and significant increases in the incidence of bilharzia have been documented in Sub-Saharan Africa as a result of irrigation development in Ethiopia, Kenya, and Sudan.

In most of these countries, bilharzia infestations have increased among the population at risk at rates from less than 5 percent to 10 percent after the introduction of irrigation schemes. But the incidence of occurrence rose to over 80 percent of the population at risk after irrigation in some extreme cases, such as the Gezira in Sudan. A recent study by the World Health Organization concluded that the spread of bilharzia in island nations, such as the Philippines, was facilitated by the removal of natural barriers to the snail's migration, because of irrigation project development and construction of roads through rain forests.

Schistosomiasis has substantially reduced labor productivity in China, Egypt, Sudan, and Tanzania. In Egypt, for example, labor output dropped as much as 35 percent among infected groups; whereas in China, an average loss of adult capacity to work of about 40 percent has been reported. Studies of sugar plantations in Tanzania and Sudan show that infected workers produce 10 to 15 percent less than non-infected workers. As the demand for greater amounts of food grows, better design and control of irrigation systems becomes imperative.

Toward food security

World population is expected to grow from five billion today to at least eight billion by 2015, and indications are that average annual growth rates in yield of over 2 percent in agriculture as a whole—and about 3 percent in irrigated agriculture—will be necessary to achieve food security and improve the quality of life in developing countries. We are faced with the challenge today of either continuing investment in well-conceived and environmentally sound irrigation projects to capitalize on unexploited agricultural potential, or slowing down such investment because of environmental and ecological concerns that cannot be met.

Supporters of more irrigation programs point to a recent study on the impact of irrigation in Thailand, which states that the benefits of irrigation to the environment were substantial because it attracted large segments of the population away from the "slash-and-burn" culture that destroyed the forests and damaged the environment in the hills of Thailand. Irrigation allowed these people to settle in the newly irrigated lands on the plains.

Irrigation is also identified as a key to the success of the Green Revolution. Its supporters contend that today the roughly 300 million hectares of irrigated land account for only about 20 percent of all land under cultivation and yet produce nearly 55 percent of the global output of rice and wheat. These proponents also note that over the last 20 years, irrigation projects have helped several developing countries—for example, China, India, Indonesia, and the Philippines—effectively pursue agricultural programs that have significantly reduced the number of people living below the poverty line. The high-yielding, irrigation-dependent varieties of rice and other grains have turned many Asian nations from food importers to surplus producers.

But with about $250 billion already invested in irrigation systems and another $100 billion expected to be invested by the year 2000, the environmental and other costs associated with such projects need to be clearly identified and weighed carefully.

Better evaluations

Many irrigation projects built in the past 25 years appeared to be economically attractive only because they did not include expensive subcomponents, such as proper drainage. It did not take long, however, before such "savings" produced costly results. Lack of adequate drainage systems, for example, were found to be the main cause behind the deteriorating environment and declining yields in the Indus Basis in Pakistan and Egypt's Nile Delta.

Because of emerging concerns, the costs of supplying water—the key input in the production of major cereals—may become greater than the value of the crops and services it provides. This is the basis of the emerging "water problems crisis." To forestall such problems, we must first put into place a plan for water management that views human intervention in the hydrological cycle not as an isolated act, but rather in terms of the action's systemwide consequences.

The water sector must be seen as part of the whole economy and as a part of the national and regional environment. Reallocation of water resources, whether made by custom, law, regulation, or the market, is becoming increasingly difficult. In many instances, market forces alone cannot be counted on to produce optimal allocation. A well-articulated water investment strategy should provide a framework for analyzing the environmental and other implications of human interventions in the hydrological cycle over the long term. ■

How Does a Country Join the IMF?

Questions & Answers

Marina Primorac
Secretary's Department, IMF

In 1990, the IMF received a flurry of membership applications, as a number of industrial and developing countries—new and old—decided to become part of the global economic community. The sudden burst of activity was reminiscent of earlier waves (see chart), but this most recent batch is notable in its diversity:

- Czechoslovakia was previously a member and is currently attempting a rapid transition from a centrally planned to a market economy;
- Bulgaria is undergoing a more gradual reform from an essentially agrarian society;
- Namibia just became a sovereign nation in 1990;
- Mongolia recently held the first multiparty elections in its history;
- Switzerland, a center of international finance, will be the first member that is not a member of the United Nations; and
- Albania is just emerging from a long period of limited contact with the outside world.

Membership in the IMF now totals 155; remaining nonmember countries—besides Albania and Switzerland, which have not yet completed the membership process—include Brunei, Cuba, North Korea, and the Union of Soviet Socialist Republics.

Because of rising public interest and curiosity about IMF membership, *Finance & Development* thought it timely to respond to some commonly asked questions about the membership process.

Who can apply for membership in the IMF?

The prospective member must be a country in control of its own foreign affairs, and it must be willing and able to meet the obligations of membership contained in the IMF's Articles of Agreement—its charter. Under those obligations, a member must conduct its exchange rate policy and related economic and financial policies in accordance with the Articles, and provide requested economic and financial information. Consistent with its purposes, the IMF helps a member in finding a solution to the country's balance of payments problems. A member must also pay a subscription—financial reserves that can be made available for use by the IMF's members.

Does a country have to adopt a market economy to qualify for membership?

No. The variety of members is testament to the fact that membership does not depend on economic and political systems—in fact, around two dozen had, or still have, either centrally planned or mixed economies. It is also mistakenly thought that the IMF requires its members to adhere to a particular exchange rate arrangement, most likely involving convertibility. In fact, members can avail themselves of transitional arrangements of Article XIV of the IMF's charter, whereby they may maintain or adapt to changing circumstances the restrictions that were in effect on the date that they became members—and over half of them do so. However, members are expected to pay regard in their foreign exchange policies to the purposes of the IMF and to take steps toward lifting all restrictions as soon as possible.

Who are the "largest" and "smallest" members?

The United States is the largest member in terms of quota, and as required by the IMF's Articles, the institution's headquarters, therefore, is located in Washington. The US quota is SDR 17,918 million, which entitles it to about 19 percent of the total votes in the IMF. (Each member is assigned a quota, essentially its share in the IMF capital base, and has 250 votes plus one additional vote for each SDR 100,000 of quota.) At the other end of the scale are the Maldives, with a quota of SDR 2.0 million and a 0.03 percent share of total votes.

Is there any connection between World Bank and IMF membership?

IMF membership is a prerequisite for joining the World Bank and its affiliates, but a country is not required to join the Bank once it joins the IMF. In practice, applicants tend to be more immediately interested in the project assistance services of the Bank, and they sometimes view IMF membership as a hurdle to be crossed before gaining access to those resources.

Does politics affect the timing of applications?

One sometimes reads in the press that the IMF is ready to accept a country as a result of political or economic developments in that country. While the Executive Board's decision to consider an application is based on whether the country can meet the obligations of membership, the practical reality is that the Board of Governors—not the Executive Board—decides on a membership. It does so by a simple majority of votes cast; reasons for votes need not be given. To avoid the playing out of political issues in the process of deciding on membership, potential applicants tend to explore carefully the likely response of various important countries and groupings ahead of time. When they do apply, countries often have the enthusiastic support of current members who see particular advantages to having countries with which they have commercial relations accept the responsibilities of membership. The actual timing may hinge on domestic political and economic events. For example, most countries that joined the IMF after the 1940s did so within a year or two of achieving independence. Those that have delayed have cited several reasons, including concerns about the cost of the membership, a desire to remain truly neutral and uninvolved in international organizations, and a lack of popular support for membership at home or abroad. The Soviet Union was one of the principal negotiators at the Bretton Woods Conference, which adopted the original Articles of Agreement on July 22, 1944, lead-

ing to the creation of the IMF, but it did not accept and sign the treaty as an original member.

How is the membership process begun?

The initial contact can take many forms, varying from formal inquiries to casual hallway conversations, but the first official inquiry is made by the authorities, perhaps through their diplomatic staff in Washington or New York. The next step is a formal application, signed by the head of state or a high official, such as a minister of foreign affairs.

How does the IMF respond to a membership application?

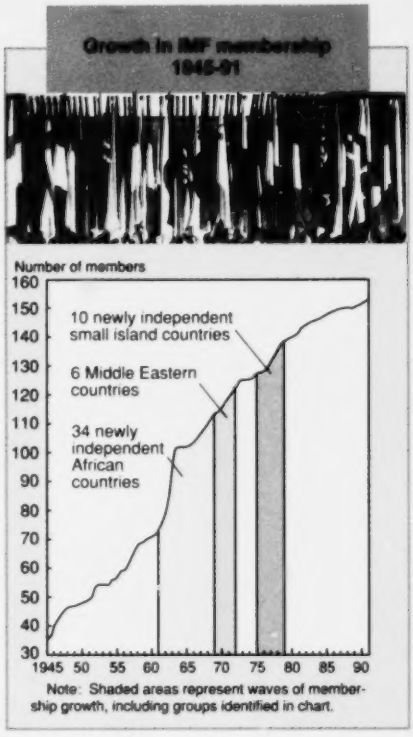
Soon after the application has been received, the IMF sends a membership mission to the country, which aims at collecting the necessary data for quota calculations and piecing together the country's economic history, along with a description of its current economic and financial system. At the same time, the country learns about the IMF's rules and standards regarding the information and statistics to be supplied to the IMF, as well as about the financial aspects and legal and procedural steps of membership. The Bank may also participate in the IMF mission, although it will use the quota arrived at by the IMF to determine the prospective member's capital subscription for the Bank.

What does the staff do with the data gathered on this first visit?

The information gathered is used by the staff to prepare a "quota paper" for the Executive Directors. Based on the data supplied to the mission on national accounts, gold and foreign exchange reserves, and current payments and receipts of the balance of payments, five different formulas are used to come up with the calculated quota. Actual quotas, however, are on average much smaller than calculated quotas, and the initial quota of a new member has to be fitted into the structure of the existing quotas of members of comparable economic size. In addition, comparisons are made with other subgroups of countries that have similar characteristics. This normally results in a recommended quota range.

So the staff decides the country's quota?

No, not at all. A committee of, say, five to eight Executive Directors is formed to consider the staff's paper, and it is this body that has the real power to recommend a quota. Once the applicant agrees to the quota recommended by the committee, the quota is considered by the Executive Board and submitted to the Board of Governors for a vote. This process can be rather contentious, as the quota not only determines subscriptions but also relative voting strength, the size of potential borrowings from the IMF and other transactions between the IMF and the member, and future SDR allocations.



What about countries that previously were members? Do they retain the same relative quota as when they originally belonged?

No. When previous members apply—as have Czechoslovakia, Indonesia, and Poland—they are treated as new applicants.

How does the vote by Governors work?

When the vote does go out to the Governors—it is generally done by mail and takes about 30 days—two thirds of the Governors, who must also represent over 50 percent of the total vote, are required to respond for a quorum to be achieved. This vote can also take place at the Annual Meetings. For the vote to be carried, a simple majority is needed. The culmination of the membership process is the signing by the authorities of the original copy of the Articles of Agreement at the US State Department in Washington and the deposit of an instrument of acceptance. This may be immediately followed by the signing of membership documents for the World Bank and its affiliates.

How is the constituency of a new member country decided?

There are no regulations governing the decision to become part of a constituency (namely, a group of countries represented by an Executive Director), other than those arising from prescribed proportions of votes required to elect Executive Directors. Directors of some large shareholders of the IMF represent only their own country. Others represent a group of countries. The distribution of countries tends to be geographically based, but practical interests often dominate: for instance, Spain is with a Latin American constituency; and Israel joined the constituency that includes the Netherlands, Yugoslavia, Romania, Bulgaria, and Cyprus, rather than the Middle East group.

Sometimes countries in a constituency may even seek out new members to strengthen their Executive Director's vote if that would not upset the traditional majority within the group. At the same time, the new member looks to maximize the amount of influence it will have in the Board. Most constituencies have internal agreements about which country nominates the Executive Director and the Alternate. In some constituencies, the same countries hold the more important positions, while in others they are rotated as often as every two years. These agreements frequently also take into account arrangements in the World Bank Executive Board, whose constituencies, incidentally, differ slightly from those in the IMF. Joining a constituency, however, is not mandatory—for example, the Republic of South Africa has a special representative to the IMF who attends the annual Board discussions covering the country but does not participate in any Board decisions—although it is important for a country to safeguard its interests through such representation and to share in the IMF decision-making process. ■

Saving and Investment in Developing Countries: *Sources and Uses of Funds, 1975–96*

Kenneth S. Warwick
Research Department, IMF

One of the most important requirements for an improvement in the medium-term growth performance of the indebted developing countries is a recovery in domestic saving and investment rates from current levels. The charts show how saving and investment behavior has changed since 1975, along with projections for the next five years prepared by the IMF staff as part of the May 1991 *World Economic Outlook* exercise. In most cases, a significant increase in saving and investment is envisaged, but only if countries adhere to recently adopted stabilization plans and adjustment measures.

Following the debt crisis, saving and investment rates fell sharply in many developing countries. The financing of investment also changed markedly, with much greater reliance on domestic sources of finance after 1982. Some countries have subsequently managed to increase domestic saving and investment, but in other cases, rates of capital accumulation continue to be very low. For the medium term, the flow of external saving to the indebted developing countries is projected to rise in absolute terms but to continue to decline relative to GDP. Although some debtor countries will continue to rely heavily on external finance, it seems likely that an increasing proportion of domestic investment in the developing countries will be financed by domestic savings.

The charts show saving and investment in a flow of funds framework—described more fully in the box—for six different groups of developing countries. Perhaps the most significant contrast is between countries that experienced debt-servicing difficulties—such as the accumulation of external payments arrears or debt rescheduling—in the second half of the 1980s and those that avoided such difficulties (Charts 1 and 2). Countries in the first group relied more heavily on external finance than the others in the 1970s and suffered a sharper reduction in gross external saving in relation to GDP after 1982. The accumulation of debt in the 1970s also increased the vulnerability of this group to the higher real interest rates that prevailed in the 1980s, leading to a sharp increase in net factor payments. Investment abroad fell in both groups of countries, but the decline was sharper in the countries that encountered debt-servicing problems, largely reflecting their use of foreign exchange reserves. Investment in external assets also became more volatile, partly as a result of movements in flight capital.

The response of domestic saving to the external shocks of the 1980s was very different in the two groups of countries. Between 1975–82 and 1983–90, domestic saving rates fell by 2½ percentage points in the countries that experienced debt-servicing difficulties, whereas other indebted developing countries were able to increase their domestic saving rates by 2 percentage points. Reflecting this, investment rates remained depressed in the countries with debt-servicing difficulties for most of the 1980s, whereas other countries managed to sustain, or even increase, investment rates. The IMF staff's medium-term projections envisage that domestic saving might recover in countries with debt-servicing difficulties to levels comparable to those elsewhere. Investment and growth would also increase substantially compared with recent performance, but would still fall short of rates achieved in other parts of the developing world.

The differential impact of the shocks of the 1980s can also be seen by comparing the experience of countries that depended on commercial sources of finance with the experience of those that obtained external credit mainly from official sources (Charts 3 and 4). The market borrowers (a diverse group of 27 countries) sharply reduced their use of external saving after 1982, whereas the official borrowers (including most of the African countries and other low-income countries) continued to receive substantial inflows from official sources. Although the commercial borrowers were more vulnerable to changes in market conditions, domestic saving in this group, on average, held up more strongly in the 1980s and domestic investment has been on an upward trend since 1983. For the medium term, increases in saving and investment are projected for both groups of countries, with external saving and transfers from abroad continuing to play an important role in the financing of investment for the official borrowers.

The third set of charts provides a comparison of developments in two regions, Asia and the Western Hemisphere (Charts 5 and 6). In Asia, there has been fairly steady growth in domestic saving and investment since 1980 and a slight decline in the use of external saving. Hardly any change in investment and saving rates is projected over the next five years and growth rates are expected to continue to be among the highest in the world. In the Western Hemisphere, saving and investment rates have been consistently lower than those recorded in Asia. Furthermore, the de-

The flow of funds framework used in the charts distinguishes between three main sources and three main uses of funds. The sources of funds are domestic saving, gross external saving, and transfers from abroad:

Domestic saving is the part of domestic output (GDP) that is not used for consumption. It differs from national saving in that it excludes transfers and net factor income from abroad.

Gross external saving is defined as the inflow of external resources corresponding to a balance of payments deficit on current account plus any investment abroad (defined below).

Transfers from abroad include workers' remittances, other private transfers, official aid, and other official transfers.

The uses of funds include domestic investment, net factor payments to foreign residents, and investment in external assets:

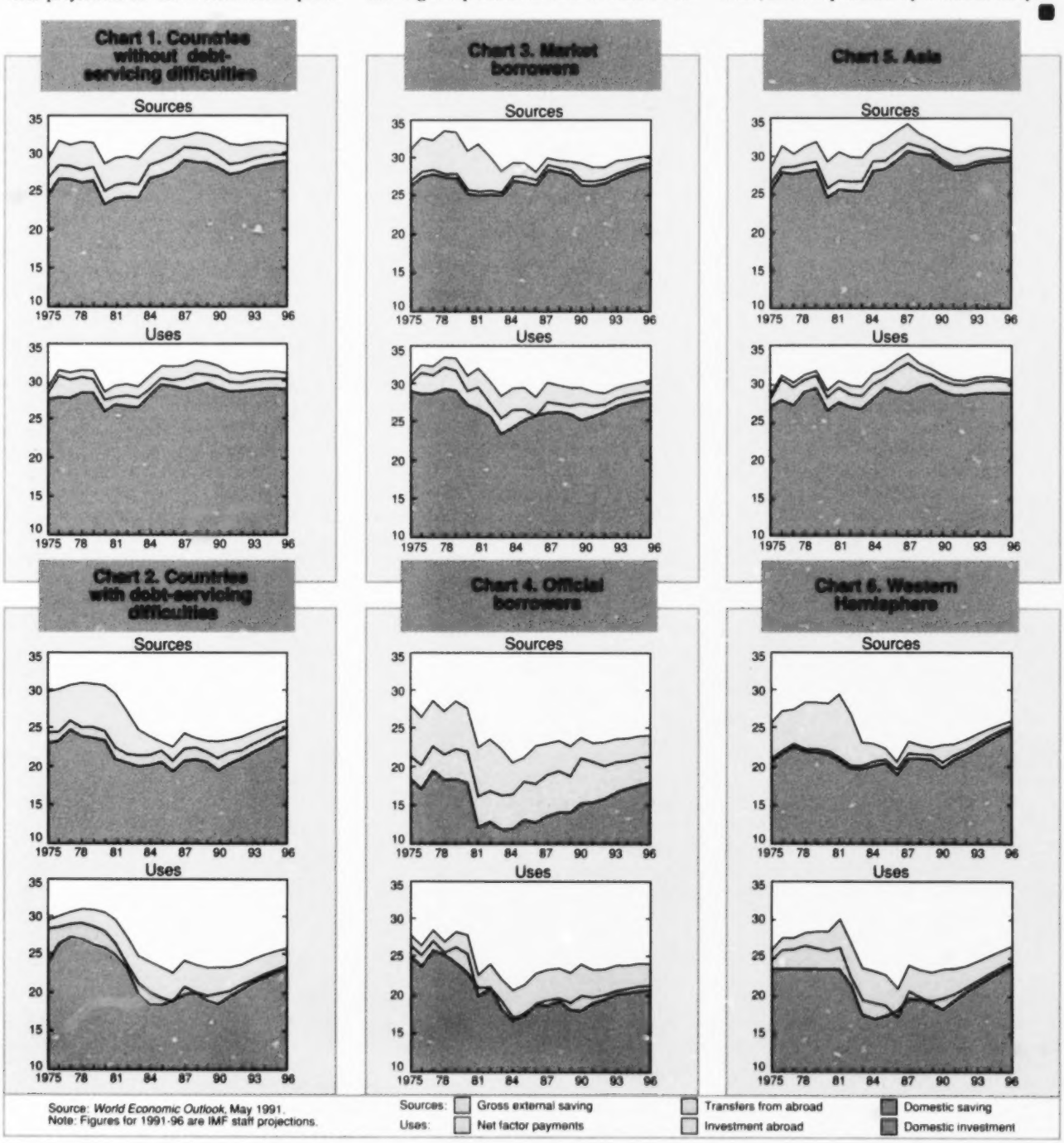
Domestic investment comprises investment in fixed assets and inventories.

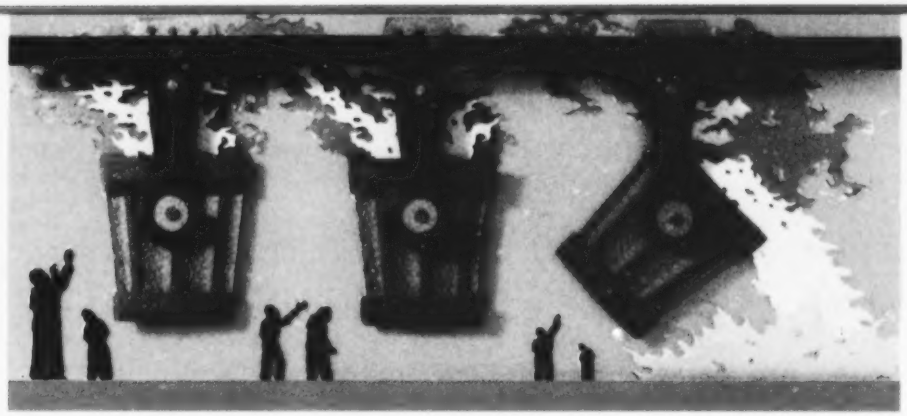
Net factor payments consist mainly of interest obligations falling due to external creditors.

Investment abroad is measured as the sum of asset transactions and errors and omissions (on the assumption that these two categories include any capital flight) and the acquisition of official foreign exchange reserves.

cline in gross external saving was particularly pronounced in this region, and the rise in interest payments after 1979 was not offset by a rise in domestic saving. Domestic investment fell sharply after 1981 and remained low for much of the 1980s, while movements of flight capital and changes in foreign exchange reserves led to a high degree of volatility in investment abroad. The medium-term projections for the Western Hemisphere involve a significant rise in saving and investment, but this will require substantial progress in macroeconomic stabilization and structural reform in many Latin American countries.

The empirical evidence suggests a strong relationship between saving, investment, and growth in developing countries. These interactions need to be taken into account in addressing the problem of how to restore adequate rates of growth in the indebted developing countries. While an increase in the availability of financing, either domestic or external, is important, there is no guarantee that it will lead to a rise in the rate of capital formation or an improvement in the efficiency of resource use. Policies must therefore be designed as a package to address the underlying causes of low saving, low investment, and low productivity simultaneously. ■





The Changing Economics of Steel

New manufacturing processes and technologies may allow developing countries to produce steel for smaller markets with smaller mills. The implications for world production and trade

Robert R. Miller

The global steel industry changed rapidly over the past decade. Industrial country production declined, while developing countries, as a group, showed rapid increases both in production and as a proportion of world output. Meanwhile, the emergence of new production systems—in the form of "minimills" (producing 500,000 to 1 million tons a year from scrap steel instead of iron ore)—and new technology has helped change the economics of steel production, altering patterns of international trade and opening the way for further changes in the manufacture of steel. Today, smaller mills serving modest-sized markets have become economic, making it possible for many developing countries that had hitherto steered clear of producing their own steel to enter production.

While developing countries would appear to have gained from the new technology and production systems, the steel market in industrial countries has changed too, making it more difficult for new entrants to benefit from export-led growth of the steel sector. This market is moving to just-in-time (i.e., quick response) methods to meet demand. This places a higher premium on keeping mills in close proximity to customers. Moreover, transportation of raw materials now paradoxically costs less than shipments of finished steel goods.

Even though world production of steel has been stagnant for the past ten years or so, at around 750 million tons a year, developing countries have shown rapid growth of output. Their share has increased from 7 percent of world production in 1979 to 12 percent in 1988 (see chart). Brazil, China, the Republic of Korea, and Turkey have continued to expand their production and now have plans to increase their capacity. Industrial countries, meanwhile, are experiencing a secular decline in steel production.

International trade in steel has also shown little growth in the last ten years, in part because of trade constraints, but the pattern of trade has been changing. The European Community and Japan, although still net exporters, have declined in importance. The United States, long a major net importer, has been importing less in the latter half of the 1980s, even though trade restrictions there have not been binding (see table). Brazil has helped increase total Latin American exports, although the region now is a large net exporter of steel. Similarly, Korea continued to increase its exports, but Asia is a net importer. Overall, developing countries, as a group, are expected to show an increasing growth in demand for steel, so that, despite an increase in indigenous production and expansion of exports by some developing countries, as a group they will continue to be net importers.

Technological change

Technical innovations in the steel industry over the last 20 years have tended to be incremental improvements over existing processes, not fundamental changes in the method of production. Most improvements have helped save labor and capital, forcing industries in both developed and developing countries to adopt new technologies in order to stay competitive. Efficiency and quality have improved noticeably and steadily. Many modern minimills today need less than two labor hours to produce a ton of steel. Even the larger integrated mills (which start with iron ore to make iron before turning it into steel) can produce a ton of steel with about three to four hours of labor. The cost of labor per unit of steel continues to decline.

As a result, labor costs are no longer very important as a determinant of competition in this industry. Within the next five years, labor costs are expected to account for no more than 10–15 percent of the total production costs of steel in modern mills. Even now, the cost of shipping finished steel products internationally exceeds labor costs for the most efficient plants, particularly for the types of steel products that new producers generally make to enter world markets. This does not bode well for developing countries that are trying to emulate Japan, Korea, and Taiwan Province of China by exporting steel as part of their rapid development strategy.

Meanwhile, technical development continues apace, particularly affecting blast furnaces—the root of iron and steelmaking in integrated plants. These furnaces take iron ore,

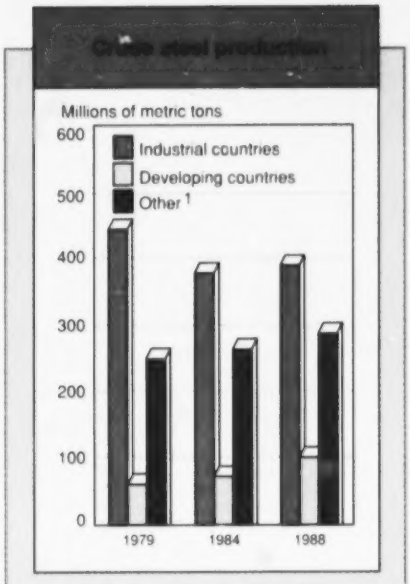
limestone, and coke and convert them into pig iron. Iron then moves to the basic oxygen furnace to be converted into steel before moving into refining and final processing. New blast furnaces are very expensive, at $750–950 million each, making the resulting steel uncompetitive in a market where price is determined by minimills which do not have to process ore to manufacture steel. This trend will continue, making blast furnaces less competitive as research into other methods of producing iron and steel progresses.

New production methods

One such method is direct reduction of iron ore (DRI), which transforms a mixture of iron ore and other materials, using gas or coal as a source of energy, into sponge iron (so called because it is more porous than pig iron produced by blast furnaces). This method has been in use in different parts of the world, but it has certain cost and other disadvantages that have limited its use. It demands inexpensive energy sources and seems best suited for areas that do not have much scrap steel but have rich natural gas resources, as is the case in Venezuela and Mexico. DRI is not suited for areas where scrap may be abundant but energy is more expensive. Further, DRI produces solid iron that cannot be substituted significantly for the molten iron needed to supply basic oxygen furnaces.

This situation may change. First, as more minimills come into production in industrialized nations, scrap prices will rise, making it less competitive as a ferrous input. DRI may then become an obvious alternative. Second, current research into DRI (particularly into the use of coal-based production) will lead to lower costs and higher quality. Over the next five years or so, therefore, both minimills and integrated plants are expected to begin moving to this improved technology.

There is also the possibility that steel could be produced directly from iron-bearing raw materials. This is being researched across the world. Moreover, the revolutionary thin slab continuous casting of steel, a process that allows steel to be produced with a thickness of as little as 1.5 inches (4 cm.), greatly reduces the amount of hot rolling needed to make flat products. The result is smaller finishing lines, reduced capital investment, enhanced labor productivity, and a smaller scale production system. Similar developments are occurring in cold rolling (a process through which steel is pressed into thin sheets with a finer surface finish than produced by hot rolling), where improved process controls and better process integration are occurring. Efforts are now underway to reduce slab thickness even further, perhaps to as little as 1/2 inch (1.33 cm.), a process that earlier required large investments and high volume production.



Source: International Iron and Steel Institute, *Steel Statistical Yearbook*, Brussels, 1989.
[1]Includes USSR, Eastern Europe, China, etc.

The implications of these evolving technologies for economies of scale, so important in locating production in developing countries, are not yet entirely clear. It would appear that most new technologies allow a reduction in the economic scale of production from at least four or five million tons of output annually to one or two million tons with a blast furnace and basic oxygen furnace combination. This may allow economic production for modest-sized markets, depending on the mix of demand and the costs of imports in these countries. Several markets of this size exist around the world, including Algeria, Argentina, Egypt, Hong Kong, Indonesia, Iran, Malaysia, Nigeria, Thailand, Turkey, Venezuela, and Yugoslavia. In addition, there are larger markets, such as Brazil, China, India, South Korea, Taiwan Province of China, and various Eastern European nations.

The limited evidence available suggests that capital costs for newer steel-making technologies may be a third or less of costs per ton associated with replacing blast furnaces. But, there are several negative aspects of these changes that do not favor developing country production. One, mentioned earlier, is the fact that new technologies are driving labor costs down to very low levels, even in industrial nations. Therefore, the ability of developing countries to use lower-cost labor to create a price advantage in industrial country markets may be much more constrained than in earlier times; indeed, increased transport costs to major developed country markets from distant developing countries would absorb most of the gains on the labor cost. There may be cases where transportation charges are less important because of proximity, for example, between Taiwan Province of China or Korea and Japan, or between Mexico and the United States, where exports might be feasible.

Newer steel-making technologies also are likely to be more demanding in terms of human skills. Much will depend on the qualitative demands of the particular market, the steel-making methods selected, and the types of processing needed. Certainly the more advanced techniques to be introduced within the next decade will involve sophisticated instrumentation and microelectronics, complex software routines, and exacting process controls. Even today, steel companies in the more advanced industrialized nations are finding it necessary to retrain and upgrade workforces. In some poorer countries, the lack of requisite technical skills could prove to be a difficult constraint in the adoption of newer steel technologies.

Steel trade balance
(in millions of tons ingot equivalent)

Country or region	1979	1984	1989
European Community[1]	27.4	28.2	20.0
Japan	38.0	36.3	20.1
United States	–16.8	–29.0	–20.2
OECD	51.6	43.4	26.2
Latin America	–5.7	5.7	12.2
Asia/Middle East (Excluding Japan)	–34.6	–31.8	–33.4

Source: OECD, *The Steel Market in 1988 and the Outlook for 1989*, Paris, 1989.
[1]EC of nine for 1979 and 1984 and EC of 12 for 1989.
– Indicates net imports.

Role of natural resources

In recent years, local availability of coal, iron ore, and energy resources has made little difference in global competition in the

steel industry. Korea, Japan, and Taiwan Province of China, none with relevant natural resources of their own, have succeeded impressively in becoming three of the world's most efficient producers. Although their advantages seem to be lessening, these producers have found that diversified supplies of raw materials have been available internationally at competitive prices, often with attractive long-term contractual terms. The question now is: Will resource availability continue to be relatively unimportant as a determinant of global comparative advantage in the production of steel?

Of primary importance is the fact that only about 60 percent of steel production globally involves pig iron, the primary output of blast furnaces and, today, the major user of raw materials. The remaining 40 percent is produced from recycled scrap, most of it being used in electric furnaces in both minimills and integrated steelworks. Thus, the availability and price of scrap is a major factor in determining the competitiveness of the blast furnace/basic oxygen process combination. When scrap prices are low, as they have been in recent years, new blast furnaces cannot be financially justified. Low scrap prices also have discouraged the introduction of alternative forms of processing in the industry. For example, DRI has not been financially attractive, except in areas where energy costs have been low.

If scrap prices rise significantly in real terms in the near future, as seems probable, the declining trend in blast furnace production may be arrested for a time, although construction of new furnaces is unlikely to be financially viable even then. But, higher scrap prices also will make such processes as DRI and even direct steel production more attractive, stimulating greater efforts at bringing these technologies into wider commercial use. Higher scrap prices will have much greater effects on minimills than on plants that depend on blast furnaces, forcing them to seek substitute ferrous inputs. Since the newer technologies are likely to be much less capital intensive and to be available at a much reduced scale, as compared with the blast furnace/basic oxygen furnace combination, they promise to change the global industry's structure significantly.

What opportunities exist for developing countries in light of current resource allocation? The answer is somewhat difficult, partly because the technical trends and patterns of comparative advantage have little to do with natural resource use or availability. Iron ore, for example, has become an international commodity, transported at very low cost. Only two countries, Australia and Brazil, furnish half of global supplies. Western Europe and Japan are today almost entirely dependent on foreign raw materials, yet, steel producers in these regions remain internationally competitive. Conversely, both Australia and Brazil have had difficulty establishing internationally competitive industries without governmental subsidies, despite having rich ore resources.

The fact is that few countries can claim easy access to all resources relevant to steel making. Brazil has ore, but lacks convenient energy resources; Europe has coal (subsidized today), but lacks high-grade iron ore. (One exception is India, which has both coal and high-grade ore, the latter, a significant export today. Although its industry is expanding, the country promises to remain a net importer of steel well beyond the year 2000.) As long as it remains cheaper to transport raw materials than finished products, and commodity markets stay competitive, unique access to resources provides little, if any, competitive advantage. New technologies on the horizon promise only minor changes in this picture. If DRI continues to be an energy-intensive process, countries such as Indonesia, Mexico, and Venezuela might be modestly favored because they have natural gas, probably as regional sponge iron or slab exporters. Already, however, coal-based direct reduction methods, directly competitive with prevailing DRI technologies, are being applied commercially in a few places.

The most important factor in the new technologies of relevance to developing countries is not their use of resources but rather their effects on economies of scale. Increasingly, it should be possible to design smaller, efficient production facilities to serve relatively small markets. Scale and investment requirements are falling at every stage of production, from iron and steelmaking to rolling mills and other processing. Further, labor costs are dropping while transport costs are increasing. In the future, it is likely to be more important to be near markets than to have indigenous access to raw materials.

Conclusion

In light of these changes, developing countries may not be able to rely on exports to industrial nations as a basis for building a competitive steel industry. Developed countries will become increasingly dependent on highly efficient and responsive plants located near major markets. Consequently, international trade in steel products—particularly trans-oceanic trade—will be a less important feature of tomorrow's global steel market than is the case today.

Nonetheless, opportunities for developing countries will continue to exist in the steel industry. Some—such as Brazil, Indonesia, Mexico, Nigeria, and Venezuela—may become regional suppliers. Others may follow the production patterns of industrialized nations, with plants that are market-oriented and positioned to meet the needs of local buyers. Minimal market size will still be an important consideration in designing such plants but, as noted earlier, there are many countries today with markets sufficiently large to accommodate an efficient plant. ■

A glossary of steel production terms

Blast furnace: A large structure within which enriched iron ore, limestone, coke, and, today, powdered coal are combined at high temperature to produce molten iron (pig iron).

Pig iron: The crude, direct product of the blast furnace; a product further refined in an electric arc or basic oxygen furnace to produce steel. Pig iron is usually transferred to the steel-making vessel in molten form today.

Basic oxygen furnace (BOF): An intermediate vessel into which pig iron is placed in liquid form, often along with some solid scrap or sponge iron, to produce steel.

Sponge iron: The crude product of the direct reduction of iron, which is then refined in an electric arc furnace (or, sometimes, a BOF) to produce steel. The term "sponge" is based on its appearance as coalesced granules of nearly pure iron mixed with some waste materials.

Direct reduced iron: Produced by a process that reduces iron ore at temperatures below the melting point of iron and can use fuel (or carbon) sources other than coke.

Direct reduced steel: A still-experimental process where iron ore is converted directly into molten steel, which is then further refined.

Robert R. Miller
a US citizen, is a Consultant in the International Finance Corporation's Economics Department. He holds graduate degrees from Stanford and the University of Michigan and a degree in mechanical engineering from Michigan.

The Changing Role of the State in Development

A leaner, specialized, and more effective public sector is needed to support a healthy private sector

Arturo Israel

A remarkable change seems to have occurred in thinking about the role of government in economic development across the globe during the past decade. Less is now considered better. In other words, increasingly countries of all political hues have been moving to policies that favor a reduced role for the public sector and greater reliance on the private sector. This movement has been so strong that, at times, it has been able to overcome resistance from powerful political and economic interests. There are many reasons for this change in strategy: the growing complexity and international integration of economies makes overly centralized decision-making practically impossible; the proven inability of the public sector to perform well, if at all, the myriad functions associated with an interventionist state; and the excessive politicization and corruption generated by overextended and overbearing public sectors.

But the will to change has not always been matched by the ability to effect a change. As the search goes on for the best ways, particularly in developing countries, to marry the functions of the public and private sectors, so does the controversy over the appropriate role of the state in the economy. At one end of the spectrum are proponents of an almost entirely laissez faire state; at the other end are those who favor a promotional role for the state in private sector-led development strategies.

This article does not take sides in this debate. Rather, its central thesis is that a greatly modernized, efficient, and supportive public sector is key to the success of a development strategy that rests on a larger role for the private sector.

Quality of the state's role

In the pursuit of economic and social development, one can identify the major areas in which changes need to be made to improve the quality of the state's intervention. These include (1) the functions of the public sector; (2) the administrative structures; (3) the procedures followed; and (4) the skills and management systems required.

Functions. Five important functions performed by the public sector need to be identified and improved:

- *The capacity to design, monitor, and implement a consistent set of macroeconomic and sectoral policies.* A consistent and stable set of carefully crafted macroeconomic and sectoral policies is the *sine qua non* of sound development strategies and yields the highest returns. Unfortunately, the developing world is littered with cases of badly thought through and meandering policies, with glaring costs. A preliminary analysis of the successful cases of policy formulation and implementation in developing countries (for example, in Botswana, Chile, Mauritius, and the Republic of Korea) suggests the need for highly qualified staff in key agencies (no more than 200 persons perhaps in larger countries), well versed not only in economic analysis and specialized subject areas but also in communicating across governmental bodies and, crucially, with the political establishment. Such staff are needed, for example, in the ministry of finance, the central bank, the trade agencies, and the main sectoral ministries. Such persons have to be brought to the right posts (with appropriate benefits and status) and then allowed to function.
- *To provide an enabling environment for the functioning of competitive markets.* This can be best begun by dismantling the "disabling" environment through the enactment of the liberalizing policies propounded in recent years, the privatization and liquidation of public sector activities that compete unfairly with private sector ones or are simply nonperforming, and the elimination of restrictions on competition. Legal changes and, perhaps more important, modifications in the functions of the state need to be made. These include the elimination of many controlling and licensing functions—for example, foreign exchange and financial controls, and industrial and transport licensing. Public sector agencies performing such functions have to be dismantled or reoriented. In practice, this has not been easy. In some countries, entrenched bureaucracies with considerable political power have managed to neutralize or greatly reduce the impact of policy reforms. Powerful interest groups sometimes have acted against the adoption or implementation of, for example, reforms to liberalize quantitative restrictions. Yet, in other cases, powerful central leaders have managed to push for such policy changes in spite of bureaucratic opposition. For example, Mexico dismantled quantitative restrictions over the objections of its Ministry of Trade and Industry, and Tunisia abolished the requirement that firms obtain clearance from the Agence des Promotion des Investissements before entering the market.

Another aspect of the enabling environment is the provision of fair and transparent rules and other operating conditions that would allow the smooth operation of the private sector and competitive markets. Such regulation includes not only the overseeing role (e.g., antitrust, prevention of collusion, or

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monopoly) but also the enforcement of financial and technical standards, as needed. It requires a high level of skills (for example, to monitor the banking system), high ethical standards, and consistent political support. Regulatory failure is perhaps the highest risk of a private sector-led development strategy.

Many governmental functions have to be strengthened, and others created, to foster a liberal economic system. These include, as a minimum, the enforcement of technical standards (often a key ingredient for promoting exports), the streamlining of procedures to register property and protect property rights, the enforcement of contractual obligations and disclosure laws, and effective bankruptcy and foreclosure proceedings. In addition, some regulation of externalities is also required (for example, environmental protection), along with establishing mechanisms to assure adequate and accessible information for consumers, producers, investors, and regulators, through disclosure rules and other mechanisms.

Finally, the public sector can play an active or promotional role by creating "positive distortions," or incentives, to promote exports or particular activities in the domestic economy. Some Asian economies (Korea, Singapore, and Taiwan Province of China) have been quite successful in this direction. Such an activist policy, however, requires a delicate balance, both institutionally and politically, which is very difficult to achieve. This is a tall order for any country. The potential for big mistakes is huge; even the best performers have made them.

• *To privatize wisely and effectively.* The state has a difficult role to play in the process of privatization. Aside from the political issues, an important factor slowing down the privatization process in many developing countries has been the lack of technical capacity in the public sector to prepare the units that are going to be privatized and then to negotiate their sale, lease, or divestiture. This capacity could reside in a small unit with a few highly qualified professionals possessing technical and political independence. The extensive privatization process in Mexico, for instance, was "masterminded" by a small team at the Ministry of Finance. Once privatization has been effected, the public sector needs persons with the skills to monitor and often regulate the privatized units to ensure that the expected efficiency gains from privatization will materialize.

• *To conduct an effective dialogue with the private sector.* An essential ingredient of the new development strategies is a better dialogue between the public and private sectors, involving a simple and unfettered exchange of information, demands, concerns, and points of view. But this collaborative approach should not produce collusion and the negotiation of privileges on either side. This dialogue is particularly culture-bound and will vary from country to country. It must take place at all levels, but in many countries, the institutions required to facilitate it in both the private and public sectors have to be created or reoriented. Most public sector agencies are not attuned to looking at the private sector as their client, with needs and preferences and with a voice that has to be taken into account. This reflects the traditional top-down orientation of most public sectors.

In the private sector, there is an even wider disparity. At one extreme, the small and powerless private firms, including those in the informal sector, are not organized enough to make their views heard by government agencies. At the other extreme, there are powerful private sector associations (e.g., Chambers of Commerce) grouping the largest productive units, which maintain a strong position vis-à-vis the public sector and have often managed to obtain important privileges for themselves. Many public sector agencies dealing with these groups are weak and yield easily to pressure. The essential ingredient for success in this direction is a substantive political reorientation, from an excessive pursuit of privileges to a more open and constructive dialogue.

• *To operate more effectively the enterprises that will remain in the public sector.* Considerable progress has been made in recent years in a large number of countries to help governments set up clear rules of the game for public enterprises, governing their policy framework, autonomy, and accountability. The results have been promising.

In principle, a public enterprise operating in a competitive market and behaving as a competitive unit is not very different from a private sector enterprise operating in the same market. The critical issue is often not ownership but competition. Indeed, many public enterprises operating in relatively high technology and "hard" activities (e.g., telecommunications, electric power, and airlines) have been able to maintain a relatively reasonable level of operational performance even under unfavorable general conditions. But their performance has been less satisfactory in "soft" activities, such as education or the provision of services in agriculture or health. The largest gains from privatization might come from the soft activities, especially if they can be made to operate in competitive environments.

Arturo Israel
Chilean, is Senior Advisor, Infrastructure and Urban Development Department of the Bank. He holds a PhD from the London School of Economics and has written extensively on the public sector.

Structures. The reorientation of functions discussed above requires a "restructuring" of the public sector. As indicated earlier, a number of agencies directly controlling economic activities (e.g., industrial licensing, foreign exchange and import controls, and price controls) will need to be eliminated or reoriented. However, new agencies or units within agencies will have to be established; for example, regulatory agencies (to oversee the privatized financial sector, capital markets, and technical standards), or those capable of undertaking policy analysis and management. Depending on the circumstances, some regulations could come from the private sector itself. For example, the accounting, auditing, legal, and medical professions may have sufficiently strong internal standards so that the role of the state in their regulation could be minimal.

Because of the nature of their work (mainly economic and technical analysis, instead of the previous processing of paperwork and monitoring of controls in great detail), the new regulatory agencies should be smaller and much more efficient than their earlier counterparts. This is closer to the operation of a think tank and should be managed as such.

Procedures. The proposed reorientation also requires different procedures. Two major changes underline the importance of streamlining decision-making systems. First, the top-down orientation fostered by the public sector *cum* planning orientation of past development strategies needs to be replaced by an approach that includes beneficiaries ("clients") at all levels. This would reduce the distance between the state and the public. The specific mechanisms for this more open approach are country-specific, and the process is undoubtedly helped by a democratic setting, but several measures could be borrowed from developed countries. For example, procedures should be adopted that permit prior comment by all affected individuals or groups—not just those with vested interests—on regulations or even policy changes. Such procedures should be transparent to minimize the risk of collusion and should inform the public about decisions in a language that ordinary people can

understand. Another crucial element is the provision of appeal by interested parties.

The essence of the argument behind these changes is that individuals and private enterprises are willing to take risks, in part, because they have a reasonable assurance that the state will act in a predictable, open, and systematic fashion, treat them fairly, give them a voice, and inform them of results.

The second, closely related issue is the need for efficient points of contact between public sector agencies and private sector operators. This covers, for example, the tax collection system, technical licensing and control, or credit processing, all of which are often appallingly incompetent. The de-bureaucratization program in Brazil of a decade ago, along these lines, had an important measure of success and other countries followed that experience, albeit only partially.

Skills and incentives. The functions, structures, and procedures described above demand a different kind of civil servant and a changed set of incentives for public sector employees. The staff should have sufficient professional stature and integrity not only to conduct a dialogue with the private sector but also to withstand its pressures. They should also be able to speak effectively with politicians. This kind of staff might be available in the country, but often is not attracted or retained by the public sector. Some countries (e.g., Brazil, Chile, India, Mexico, and Turkey) could achieve this objective with relative ease. Others have relatively less "stock" of the type of skills required, particularly in the public sector.

The quality of politics

In discussions about the changed role of the state, there has been surprisingly little analysis of the "quality" or effectiveness of the political process, an essential ingredient of sustained development. An effective political process includes a number of ingredients: a long-term perspective in policy design, instead of a concentration on immediate gains; stable policies; a low level of corruption; and a recognition that political control does not necessarily imply public ownership or operation. Contradictory and excessive political interference in the operations of the public and often the private sectors produces unintended negative results. For example, price controls for public enterprises aimed at reducing inflation result in higher inflation through increased budget deficits, and political appointments of incompetent staff lead to the bankruptcy or discrediting of agencies that were the sponsoring politicians' power centers. Equally important, the political establishment has to understand that saddling central agencies or public enterprises with an excessive number of often contradictory economic, political, and social objectives makes their effective management practically impossible.

Countries should look for additional approaches beyond the obvious answers of improving the democratic process and accountability of the political system. Strengthening the policy-making technocracy (inside and outside the government) could make it a countervailing force against political pressure, as is the case in many developed countries. In general, the more politicians and parliamentarians can be educated and trained to understand the process and objectives of economic policy and decisionmaking, through seminars and visits, and by retaining specialist staff to guide them, the better the political process will be for development. ■

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Tax Reform in Developing Countries

What constitutes successful tax reform? A review of developing country experience

Javad Khalilzadeh-Shirazi and Anwar Shah

Tax reform has become an increasingly important element of adjustment programs in developing countries supported by the World Bank and IMF. Balance of payments disequilibria often have their origins in inappropriate fiscal policies, and there is a growing recognition that fiscal imbalances cannot be addressed simply by curtailing expenditure. Moreover, tax systems of many developing countries are often distortionary and also contribute significantly to distributional problems. Restructuring tax systems is thus perceived to be critical for the success of both macroeconomic and structural reform policies.

A World Bank research project, initiated in early 1988, examined the experience with tax reform in ten developing countries with a view toward drawing lessons for other countries contemplating similar reforms. The countries included in the study were Bolivia, Colombia, Jamaica, Indonesia, Malawi, Mexico, Morocco, the Republic of Korea, Turkey, and Zimbabwe. The results of the project, as well as of recent Bank research on a number of specific tax policy issues, were reviewed at a conference held at the Bank in March 1990. This article aims to highlight the main themes that emerged and the conclusions of the discussions.

The World Bank hosted a conference in March 1990 to review tax reform experiences in developing countries and to discuss a range of issues—including taxation of foreign investment, resources and financial institutions, design of indirect taxes, tax incidence, tax policy models, and tax policy and economic growth—that are expected to dominate tax policy discussions in the 1990s. A conference volume edited by these authors will soon be published by the World Bank.

Impetus for reform

The review of tax reform experiences indicates that tax structures in most developing countries are:

- complex—difficult to administer and comply with;
- inelastic—unresponsive to growth and the changing structure of economic activity;
- inefficient—introduce serious economic distortions while often raising relatively little revenues;
- inequitable—treat individuals and businesses in similar circumstances differently; and
- unfair—tax administration and enforcement are selective and favor those with the ability to defeat the system.

Most developing countries also face a common set of fiscal problems. There is a heavy reliance on import duties and export taxes, which undermines their long-term international competitiveness, while the potential to raise revenue through consumption taxes is not exploited. Agricultural incomes, fringe benefits, and, in some countries, public sector wages are not taxed, while taxes on unearned income, property, and wealth contribute only a small proportion of total revenues. As a consequence, personal and corporate income taxes are levied on narrow tax bases at high rates.

The existing tax systems are also widely used to advance wide ranging and often conflicting economic policy objectives, such as revenue enhancement, industrial and regional development, savings, investment, employment, and export promotion. A common practice is to levy preferential tax rates, or provide exemptions or special deductions for the preferred activity. Revenue foregone to encourage specific activities is termed a "tax expenditure" in the public finance literature. For example, to promote investment in less developed regions, many countries allow an initial tax-free period (tax holiday). However, given poor compliance and enforcement, such measures are often ill-suited to achieving individual policy objectives and simply lead to increased inefficiency as other activities have to be taxed at even higher levels.

In recognition of these factors, many countries have been reforming and many more have begun to critically evaluate their tax systems. The broad goal of tax reform is to secure an efficient tax system based on taxes that are politically feasible and administratively practicable, and produce sufficient revenue with a minimum of economic distortion. Although the scope for tax reform varies from country to country depending on the nature of the initial tax system, administrative constraints, and the government's social and economic priorities, some general conclusions about the appropriate direction of tax reform can be drawn from the experience of the ten countries mentioned above.

Lessons from tax reform

Broadening the tax base and lowering tax rates should be the foremost goal of any tax reform initiative in developing countries. Developing countries typically levy high tax rates on narrow bases, encouraging tax evasion and com-

promising the fairness of the tax system. Broadening the tax base can generate higher revenues, while also providing similar tax treatment to various activities and individuals in similar economic circumstances. The distribution of tax burden among income classes is also improved by curtailing tax preferences that, for the most part, benefit the rich. Lowering tax rates mitigates the disincentive effects of taxation.

The value-added tax (VAT) should form an important element of an agenda for sales tax reform in developing countries. A broadly based sales (consumption) tax of the value-added type can raise a significant amount of public revenues in a nondistorting manner. The tax also provides an impetus for higher savings. While the overall distributional implications of such a tax are not clear, the component of VAT that falls on imports is expected to reduce rents accruing to the wealthy recipients of import and foreign exchange licenses. A VAT can further assist in improving the collection of other taxes by creating a verifiable record of transactions through production and distribution channels. This potential, though, has yet to be exploited by a developing country. The adoption of a VAT has been successful in raising additional revenues and reducing the efficiency costs of taxation in Indonesia, Turkey, Brazil, Colombia, Mexico, Korea, and Malawi. Of course, the implementation of a VAT in developing countries raises special difficulties. A VAT is unable to encompass the large number of economic activities that are carried out in the informal sector in a typical developing country. Further, to keep the poor out of the tax net, basic foods and necessities are usually exempted, creating administrative complexities. Inter-regional trade creates its own special problems for VAT administration. Simple alternative rules are adopted to provide interstate tax credits on such trade. A VAT is also not considered superior to a well-functioning retail sales tax in small island-type economies that have a narrow manufacturing base and depend heavily on cross-border trade.

Coordinated tax reform offers significant advantages over isolated piecemeal tinkering with the tax system. A coordinated reform ensures consistency of individual tax changes with the overall objectives. For example, a reduction in tariffs without a corresponding increase in other taxes can increase the fiscal deficit and exacerbate macroeconomic difficulties. A coordinated reform of these taxes would combine reductions in tariffs with an offsetting increase in consumption taxes that would apply equally to both domestic production and imports. Further, to enhance overall economic performance, tax reform should be integrated closely with overall structural adjustment measures.

Improved tax administration is a prerequisite for the success of tax reform. In developing countries, the success in broadening the bases of existing taxes and having lower tax rates continues to be compromised by tax administration difficulties. The apparent lack of success in this area is attributable to several factors: selective and lax enforcement practices; ineffective tax administration, in part, due to political inertia; institutional and political difficulties associated with bringing agricultural income into the tax net; and a disenchantment with income taxes as revenue instruments in an environment where tax evasive behavior is the rule rather than the exception. Thus, it is important to concurrently reform tax administration while attempting to restructure the tax system.

The use of the tax system for nonrevenue objectives (e.g., tax preferences for specific investments) should be curtailed. While the tax system can legitimately be used to further social and economic goals, such a use often leads to a major drain on the national treasury by conferring windfall gains on existing activities or through a shift of resources to tax preferred activities, thus ultimately reducing the tax base. Thus, in devising tax policies to meet economic and social objectives, potential gains must be weighed against the potential losses in efficiency and revenues that might be associated with these measures. Recently, Colombia, Mexico, Indonesia, and Jamaica have introduced reforms to curtail the use of the tax system for nonrevenue goals.

Tax reform must take into account initial conditions at home and abroad. In reforming their tax systems, developing countries are severely constrained not only by their own institutional settings but also by the tax structure in capital-exporting countries. For example, the US foreign tax credit regime impedes the adoption of a cash-flow system of taxation (a system where all expenditures are deducted from the income base in the same year they are incurred) in developing countries. This is because, under such a system, taxes paid to developing nations by US investors cannot be credited against their home tax liabilities. Notwithstanding this, domestic circumstances may be such that a complete redesign of tax systems could lead to serious transition difficulties. Developing countries must, therefore, take initial conditions at home and abroad into account to ensure that

Indonesia's tax reform experience

Prior to 1983, Indonesia derived less than one third of its revenues from non-oil sources. Over the years, the tax system was unsuccessfully used to accomplish nonrevenue objectives, such as regional and industrial development and developing an egalitarian society. In the process, most revenue sources, especially income and sales taxes, were subject to multiple rates on narrow bases. A lax tax administration compounded these problems further. While the inadequacies of the tax system were recognized, growing oil revenues served to detract attention from the urgent need for reform. The oil crisis of the early 1980s, however, provided an impetus for diversifying revenue sources. Against this backdrop, the tax reform measures introduced in 1983 emphasized raising revenues through broad-based consumption taxes and improvements in tax administration. This was to be achieved, however, by minimizing tax induced distortions in resource allocation and protecting the poorest of the poor from the tax net.

A value-added tax was introduced along with a luxury sales tax. Personal and corporate tax bases were broadened and subjected to lower nominal tax rates. A three-rate structure (15 percent, 25 percent, and 35 percent) applicable to income from all sources replaced 17 personal income tax rates and 3 business income tax rates. Most special tax preferences were eliminated, but the basic exemption level for personal income taxes was increased to remove nearly 90 percent of the population from the reach of the income tax.

Indonesia's tax reform strategy had a measurable degree of success in meeting its stated objectives. In just three years, non-oil revenues as a share of GDP rose nearly 50 percent. This success is largely attributable to the introduction of a VAT. The VAT also eliminated the cascading effects of earlier sales taxes and preferential tax treatment of imports over domestically manufactured goods. Further, business inputs and exports were spared from taxation.

Indonesia carried out major changes in its tax system over a three-year period. Its experience demonstrates that a developing country with the political will to undertake a major overhaul of its tax system can succeed in reaping significant economic benefits from such an initiative.

the reform effort will succeed.

The impact of tax policy on international competitiveness has not received much attention in tax reform analysis. It appears that developing countries are often engaged in wasteful tax competition by offering an increasing array of incentives to foreign investors, while not paying adequate attention to the tax regime that a potential investor faces in his home country. An investor from a country with a worldwide system of taxation can be taxed by the host country at the home country tax rate, for instance, the US tax rate, without adverse incentive effects. Further, the host country must ensure that income is not shifted to low-tax countries or to tax havens through transfer pricing (i.e., pricing intracorporate transactions in such a way so as to attribute most of the profit to a low-tax location).

The credibility of the tax regime is the key to the success of any tax reform. A stable tax policy environment encourages businesses to take a longer-term perspective in their finance and investment decisions. Making tax changes without giving adequate consideration to transitional arrangements can undermine the credibility of a tax regime. Therefore, transitional arrangements require much more careful analysis than they have hitherto been given in developing countries. Greater attention to preparation, analysis of reforms, advance consultation, as well as providing a reasonable period of adjustment prior to implementation, grandfathering provisions, and historical consistency of tax reform would establish business confidence in the credibility of the tax regime. In general, a stable tax regime should be the goal, and frequent tax changes should be avoided.

Political economy of tax reform

Tax reform is often a sensitive and difficult process. Since the gains from comprehensive reform often become visible only in the medium to long term, it is a major challenge to form a political coalition to carry through a wholesale reform. The pragmatic course is often to strive for incremental reforms in a consistent manner over time. Historical consistency of tax reform, while desirable, is difficult to attain in practice. In Colombia, for instance, a net wealth tax was considered an important progressive element of taxation in the 1974, 1986, and 1988 reform episodes, but it was repealed in 1989. Similarly, broadening the income tax base, when accompanied by the lowering of tax rates, does not invite significant opposition to forestall reform. If, however, after introducing these changes, tax preferences are later restored to appease special interests, the initial tax reform effort would have contributed to a deterioration in the budget as, in the final analysis, lower rates would be applicable to a still narrower base.

Tax changes also create winners and losers. Each tax change introduces some efficiency and vertical equity (i.e., a relatively higher tax burden on higher income classes) tradeoffs that must be recognized and appropriately addressed. In developing countries, this situation is dealt with by using exemptions. It is important to identify gains and losses by income class, by geographic region, and by political affiliation so that the long-run viability and sustainability of reform measures can be objectively evaluated. Short-term tax measures to meet nonrevenue objectives should be avoided, as they create strong political constituencies wedded to these measures. A comprehensive reform offers some possibility of balancing the gains and losses of various groups, an opportunity that does not usually arise in piecemeal reform.

Country experiences suggest that tax reform proposals must be viewed in the context of the economic and institutional setting of the country in question. For example, in low- to middle-income countries, such as Colombia, Indonesia, and Malawi, revenue gains from the broadening of income taxes are expected to be modest, and VAT is therefore expected to be the mainstay of the revenue raising effort. On the other hand, in newly industrialized countries such as Korea, there is considerable potential for revenue enhancement from the broadening of bases. In a federal country, the way powers of taxation are assigned among levels of government typically constrains tax reform choices. For example, in India, the introduction of a federal VAT is being constrained by state level opposition. States are worried that a federal VAT would leave them less discretion to set state and local sales taxes. In Pakistan, the octroi tax, which is a tax on inter-regional trade, could not be repealed as it is a significant source of local revenues. Land taxation is no longer an important source of revenue for developing countries. This need not be the case if local governments are given access to this revenue source. A local land tax would be seen as a user charge for local public services and, therefore, offers potential for raising substantial amounts of revenue in a nondistorting manner.

Tax administration plays a key role and, therefore, tax policy advice must consider current administrative practices and what potential there may be for improvement. Experience suggests that compartmentalizing public policy in various departments (or even various branches of the same departments) limits tax reform options. For example, in none of the countries studied were tax and transfer options considered simultaneously. The range of choices was restricted to alternative tax instruments, and direct expenditure options were excluded.

The local political and civil service elite in the country must assume the "ownership" of the proposals if the reforms are to succeed. Further, participation by local experts in the design of the reform enhances chances for its success as they are a better judge of the political pulse of the country. The success of tax reform in Colombia and Malawi can partly be attributed to the trained core of local experts that worked closely with foreign advisors.

The way to increase compliance is to make sure not only that the people are consulted on the reform proposals but also that they are given a clear idea about how—and on what—the money will be spent. In Malawi, there was a wide consultation process on income tax changes to gauge taxpayer reaction before the proposals were finalized. This helped to ensure that the final reforms were acceptable to a majority of the affected population.

Finally, whatever choices may be made on the path to reform, it helps to have a coherent overall plan in place before implementation begins. Further tax reforms must be responsive to changing economic and social conditions. ■

Javad Khalilzadeh-Shirazi *from Iran, is currently Chief of the Bank's India Country Operations Division and was formerly Chief of the Bank's Public Economics Division.*

Anwar Shah *from Pakistan, is a Senior Economist with the Bank's Public Economics Division. He has published widely on tax and expenditure analysis and environment and macroeconomic policy issues.*

Bill Emmott

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Edward J. Lincoln

Japan's Unequal Trade

The Brookings Institution, Washington, DC, USA, 1990, xiii + 223 pp., $26.95 (paper $9.95).

As the influence of Japan in world economic affairs has increased over recent decades, its trade behavior has come to be perceived as a major problem for Japan's trading partners. According to Dutch journalist Karel G. van Wolferen, who coined the expression "the Japan problem" in his 1987 Foreign Affairs article, the problem is multidimensional, but "is generally summed up by record-breaking trade surpluses...." Indeed, Japan has been running large trade surpluses for more than two decades now.

The books by Emmott and Lincoln—who are recognized authorities on Japanese economic issues—are notable recent additions to the literature on this subject. The author of *The Sun Also Sets* is very "optimistic", as he sees a number of limiting factors on the future growth of Japan's economic power, while the author of *Japan's Unequal Trade* is more cautious as he expects a long and tedious process ahead in eradicating the perceived problem. Surprisingly, however, neither of these authors tackle the critical issue of Japan's technical progress and productivity.

Emmott's book, which is highly entertaining and filled with interesting anecdotes, addresses a much wider audience and has a broader, if sketchier, view of the Japanese economy than that of Lincoln's. "When and how Japan will begin to flex its muscles (now that Japan is rich)? Will Japan buy up the world? Will it take on more international responsibilities? How long will its strength last? How will wealth change Japan? Will it take over leadership from a declining America? Will it become a military force once again?" These are the questions Emmott attempts to answer.

A positive answer to all these questions would require Japan's sizable current account surplus to continue for many years to come. For this to happen, Japan's saving would need to remain larger than the sum of private sector investment and any fiscal deficit. However, Emmott expects Japan's saving as a ratio to GNP to decline quickly for two reasons. First, today's young generation is a new breed of consumers, characterized as DINKs (double income, no kids) and "pleasure seekers." This is reflected in the booming consumer credit business. Second, there is the graying of the population. Japan's percentage of the aged is expected to overtake that of the United States soon and may even pass West Germany's around 2010. As a result of this demographic change, Japan's total social security costs are expected to rise to levels similar to those of the United States and

Canada, though still below the percentages for France and West Germany. Thus, Emmott predicts that Japan's saving rate would fall from 16 percent of disposable income today to 8 percent or so in the mid-1990s and possibly 3–5 percent in 2010, or equivalent to the range of the United States today.

While Emmott expects Japan's economic growth to slow and Japan's current account surplus to disappear in 5–10 years (partly vindicated by the sharp fall in trade surplus since his book's publication), he is very optimistic about the future growth of the US economy. However, he explains his optimism for the United States only in such intuitive terms as: "If the savings rate can fall so rapidly and mysteriously, then it can rise again, if not to Japanese levels of 16 percent, to more normal American levels of 7–9 percent." (p. 250) Emmott believes that the United States will remain number one and that Japan will become the leader of a yen bloc in Asia and the Pacific, as Germany is in Europe.

Lincoln's book, which contains much more serious economic analysis, focuses explicitly on Japan's import behavior and does so from the perspective of the United States. In his view, Japan's ratio of manufactured imports to GNP has been unusually low, as has Japan's participation in intra-industry trade. Lincoln argues that the unusually low ratio, instead of indicating Japanese consumers' dislike of foreign-made goods, mainly reflects Japan's barriers against import penetration. Although Lincoln is not the first to point out the above characteristics of Japanese trade, his contributions lie in his sober review of Japanese academic and official literature, which minimizes the existence of import access problems, and his analysis of Japan's intra-industry trade, which goes a step beyond previous studies.

The fundamental reason for Japan's import behavior, Lincoln concludes, lies in "the catch-up mentality caused by Japan's position as an industrial latecomer, in which the desire to produce virtually all manufactured products at home was very strong." (p. 7) In his judgment, successful industrialization by a latecomer must necessarily involve the substitution of domestic production for imports, but "in Japan's case the process has been pushed too far and for too long." (p. 7) The catch-up mentality, which lasted a century, tilted not only the government's attitudes but also private sector institutions and business practices toward restricting foreign access to Japan's domestic market.

Can one say that Japanese import behavior has changed, in view of the recent "revolutionary" increases in Japan's manufactured imports? Lincoln attributes a large part of the import increases to the price effect of the yen appreciation, but he also recognizes some genuine changes occurring in Japanese attitudes. He is cautiously optimistic about the prospect of Japanese import behavior moving closer to that of other industrial countries: "If the talk is translated into action, the results could be quite striking." (p. 95) In view of the historical experience that no radical change in Japan's social and economic orientation has been effected without foreign pressure, Lincoln argues convincingly that ensuring a change in Japanese attitudes would require countries to continue their pressure on Japan.

Kenji Takeuchi

Jean Drèze and Amartya Sen

Hunger and Public Action

Oxford University Press, New York, NY, USA, 1989, xv + 369 pp., $45.

If you are interested in antihunger policy in developing countries, then you should read this book. It is a scholarly yet accessible contribution with a clear message. The early part of the book is largely about definitions and concepts, such as the meaning of "hunger" and the objectives of "public action." The view of what constitutes adequate nutritional capability is broad and goes a long way beyond the arithmetic of calorie intakes. Variability in nutrient needs is emphasized, as is the importance of complementary inputs, such as primary health care, basic education, clean drinking water, and adequate sanitation.

An important goal of the middle third of the book is to show how famines can be prevented by public action. The key is to avoid contractions in the command of vulnerable individuals over food and other essential goods and services. The importance of understanding the way food markets work during famines is emphasized. A number of specific policy issues are examined.

The one that will probably attract the most attention concerns the use of cash transfers in famine relief, as an alternative to direct food delivery. The authors point out that there is a potential gain from separating the twin functions of direct food delivery, namely raising aggregate food availability and raising the real incomes of vulnerable groups. Selling food aid in the market and using the proceeds to reach the needy may well be more effective in reducing mortality than direct food delivery. Cash transfers can also help even if aggregate food availability cannot be increased, provided that the transfers reach those in need. This can be achieved through a combination of self-targeted employment provision and transfer payments to those unable to work.

A possible objection to cash transfers is that they may lead to higher food prices. But, the authors argue, that is fine—provided that the higher prices are the result of a well-targeted cash transfer policy; those in need will still be better off. An effective system of famine relief should be ready to go into action as soon as required, which will typically be well before external food aid can arrive.

The latter part of the book is concerned with the prevention of chronic hunger. Here, the longer-term issues are addressed, such as agriculture versus industry, and cash-crops versus food crops. Principles for action are well thought out. That is important, since some of the principles that have been proposed in the recent past, such as "food self-sufficiency," can be misguided. This is not to say that food production and pricing are unimportant; it is their usefulness as guiding principles for action that is being questioned here. Messrs. Dreze and Sen demonstrate that greater clarity of thought in distinguishing "ends" from "means" can enhance the prospects for effective public action against hunger.

The authors are critical of the use of GNP per head as an indicator of long-run progress in raising nutritional and related capabilities. The essence of their argument is valid; a high average income can allow great scope for widespread well-being, including avoiding hunger, but it does not guarantee it. At times, the authors seem to go further, attaching little importance to raising incomes independently of the enhanced scope for public service provision. That is more contentious. Aggregate output is one of the relevant parameters in the long-run progress against hunger. Its importance relative to other factors will depend crucially on country-specific circumstances, particularly the past record of growth, redistribution, and public service provision.

The book examines the experiences of a number of successful developing countries, as indicated by their rate of improvement in social indicators, particularly under-five mortality. The almost exclusive reliance on a few aggregate social indicators is questionable. These measures sometimes reveal little more than progress in controlling certain infectious and parasitic diseases; while that is an achievement, we also need to know about progress in alleviating other dimensions of poverty and hunger.

In characterizing these success stories, a distinction is made between "growth-mediated security" and "support-led security"; the former relies on growth to finance public support, while the latter does not. Expanding on earlier work by Sen, the authors argue that countries such as China, Costa Rica, Sri Lanka, Chile, and Cuba have successfully used direct intervention in public provision to achieve the social indicators typical of richer countries. Little attention is given to growth-mediated security, or to the costs of support-led security, and how they are influenced by the (important) details of policy design and financing. Nonetheless, this book provides an erudite and persuasive assessment of the positive role that public action can play in eliminating hunger. It is highly recommended.

Martin Ravallion

Ezra F. Vogel

One Step Ahead in China

Guangdong Under Reform

Harvard University Press, Cambridge, MA, USA, 1989, viii + 510 pp., $29.95.

Robert Kleinberg

China's "Opening" to the Outside World

The Experiment with Foreign Capitalism

Westview Press, Boulder, CO, USA, 1990, xiv + 227 pp., $36.50.

Deborah Davis and Ezra F. Vogel (editors)

Chinese Society on the Eve of Tiananmen

The Impact of Reform

Harvard University Press, Cambridge, MA, USA, 1990, 401 pp., $16.

Within the space of little more than ten years, China's merchandise exports increased fourfold, exceeding $52 billion in 1989. Manufactures accounted for much of the growth, and by end of the 1980s, their share had risen to 70 percent from under 50 percent at the start of the decade. Even by East Asia's high standards, such performance, which has pushed China's share of world trade to 1.7 percent, is noteworthy. Once an autarkic planned economy, China has now emerged as one of the developing world's foremost trading nations, dominating the international markets for textiles, clothing, toys, sporting goods, and light consumer electronics.

China's export successes are in no small part the outcome of a fruitful symbiosis between the economies of Guangdong (the leading exporter among China's provinces) and Hong Kong, together with the creation of four Special Economic Zones in Guangdong province

and in neighboring Fujian. Both of these developments can be traced to China's efforts at reform that commenced in the late 1970s. But the southeastern part of the country benefited the most because links with Hong Kong had been germinating at least since the mid-1970s; there was strong complementarity between the two economies; and the web of social relationships permitted Hong Kong businessmen to exploit Guangdong's industrial potential, once the province was granted greater autonomy and pro-trade policies responsive to direct foreign investment gained in favor.

While China's achievements in the productive and social sectors have received much scholarly attention, studies of trade strategy are few in number as are monographs on provincial development. Vogel's book is welcome on both counts. It traces the progress of reform in Guangdong province from the early beginnings in the 1970s, and it does so with admirable attention to historical detail, as well as to institutional nuance. He chronicles Guangdong's ascent from relative economic backwardness to the front ranks of China's dynamic eastern provinces, paying special attention to those aspects of modernization related to the emergence of export-oriented industries. The chapters on the influence of Hong Kong, the SEZs including Hainan, entrepreneurship, and trade reforms are particularly useful.

For those whose interest is mainly in China's trade strategy, the volume by Kleinberg offers a more compact and focused account. Covering the period from the late 1970s through 1987, he explores the significance of the Special Economic Zones, direct foreign investment in southern China, the presence of Hong Kong, economic decentralization, the foreign trade corporations, and exchange rate policies. All of these contributed to the successful development of light assembly industries and the export of their products. Kleinberg's account is pieced together from information on policies and their consequences, drawn from Chinese as well as western sources. This book is a useful and critical guide to China's "open door" policies, though it fails to provide the sustained analytical attention that these policies deserve.

The volume, edited by Davis and Vogel, is a creature of a very different stripe. It is a heterogeneous collection of articles touching on certain implications of reform in several sectors. Among them, the ones that describe the contrasting rural response to economic decentralization in different parts of China are the most interesting because they shed light on individual, as well as corporatist, attempts at grasping new opportunities and the evolution of the politico-bureaucratic apparatus at the county level in the reform era. These papers also provide an interesting counterpoint to Vogel's description of the events in rural Guangdong.

All three books have solid merits, but *One Step Ahead in China* is the one that is likely to contribute most to our understanding of change in China.

Shahid Yusuf

Mary O. Furner and Barry Supple (editors)

The State and Economic Knowledge

The American and British Experiences

Cambridge University Press, New York, NY, USA, 1990, xvi + 477 pp., $44.50.

With increased specialization, "tresspassing" from one social science to the other is rare. When it occurs, the outcome is often awkward, a lowest common denominator of the participating disciplines. Not so here. This collection of papers, prepared for a Woodrow Wilson International Center for Scholars symposium, explores the relations between government and the development of knowledge. A deliberate focus on the institutional history and political economy of Great Britain and the United States ensures an insightful treatment of the interplay between economic knowledge, policy development and execution, and the emergence of new organizational forms in modernizing societies.

Especially interesting is Donald Winch's examination of the role of economists—ranging from Adam Smith, Malthus, and Ricardo to the economic advisers of the Thatcher era—in shaping the public policy debate in Britain. An equally rich and complex mixture of politics and economics shines through John Lauritz Larson's paper on the intellectual antecedents of the American Republic. This essay relates how John Quincy Adams's vision of strong federal leadership and national economic development faltered against the values of personal liberty, unbridled enterprise, and State prerogatives articulated by Adams's political enemies—just as "Americans who utterly depended on the management of a welfare economy embraced Ronald Reagan's neoclassical Gilded Age rhetoric as the pure milk of the founders' intent."

William Barber provides a spirited account of the major impact that "academic scribblers" had on the New Deal as hundreds of economists joined the public service "where the action was," even as FDR announced: "I know nothing of economics and nobody else does." This is followed by Robert M. Collins' perceptive treatment of the evolving influence of policy practice on theory, as the economics of scarcity spawned by the Depression gave way to the economics of abundance and the emergence of economic "growthmanship" in the 1940s. In his essay about the development of British economic policy between the wars, Peter Clark concludes that governments learn "the hard way" rather than through "classic texts" written by "great thinkers," a theme amplified by George C. Peden who confirms that the British Treasury used theory during the 1940s and 1950s in a most "eclectic way."

Such pragmatic assessments of the role of economic theory in government are timely reminders of the limits of the profession in an age when Harvard professors and Chicago boys jet from one international trouble spot to another carrying instant policy remedies in their briefcases. Valuable too are the reminders about the contributions that public institutions have made to economics and statistics, directly challenging the notion, sometimes attributed to Keynes, that governments and their agents are passive consumers of the ideas of "defunct economists."

In brief, the case studies assembled in this book (ranging from the formation of taxation to the design of population and welfare policies) reveal an active role of government in the development of economic knowledge involving multiple and gradual interactions between the state, the economics profession, and private interest groups. Indeed, the British and United States experience competently covered in this book suggests that the construction of domestic economic policy capacities in developing countries (and the transforming economies of Eastern Europe) must be viewed as long-term, tailor-made ventures requiring a wide range of sustained interventions in the public as well as the private sector.

Robert Picciotto

Anne Krueger

Perspectives on Trade and Development

University of Chicago Press, Chicago, IL, USA, 1990, vi + 385 pp., $49.95.

Anne Krueger's views on trade policy and development are widely known. This well organized volume of her work over the past two decades is a testimony to the scholarship behind those views.

Ms. Krueger is a free-trader—espousing free trade under any circumstances. She strongly advocates that a country is better off moving toward free trade, even if its trading partners are moving in the opposite direction. This is the conclusion of the last chapter of her book, "The Role of Developing Countries in the International Economy."

This belief is both a strength as well as a weakness of her work. Ms. Krueger is clearly on strong ground when she is analyzing and demonstrating the costs of protectionist policies. The chapters on the "Rent-Seeking Society" (Chapter 7), "Economic Costs of Exchange Control" (Chapter 10), and "Test of the Infant Industry Argument" (Chapter 11) are well researched and convincing. Her analyses in these chapters would apply very appropriately to explain the slow strangulation of the economies in Eastern Europe, as well as the economic and political crisis faced by the Union of Soviet Socialist Republics.

Ms. Krueger is on less firm ground, however, when she attributes rapid growth, almost solely, to outward trade orientation. The comparison between the Republic of Korea and Turkey (Chapter 12) focuses exclusively on trade orientation, neglecting other important factors such as human capital investments. This omission is surprising since the chapter on "Factor Endowments and Per Capita Income Differences Among Countries" (Chapter 4) convincingly demonstrates that differences in human capital stock explain, to a large extent, differences in per capita income.

The outward trade orientation that has been shown to be successful in the Republic of Korea and other East Asian newly industrializing countries also bears scrutiny and should be distinguished from free trade. The success has come from—and some would say, despite—very carefully managed interventionist policies; conscious export promotion combined with import protection; and judicious use of credit and export subsidies. The real unanswered question is why this approach has not worked elsewhere. Some would say the answers lie beyond economics. Ms. Krueger's analysis does not shed light on this question.

Ms. Krueger's views have changed somewhat over the years. In the chapter written in 1988 jointly with Vernon Ruttan, "Development Thought and Development Assistance," the important role of infrastructure and human capital is acknowledged. It is heartening to see, and hope, that her tenure at the Bank, which ended in 1987, may have had a lasting effect on her views on development and the role of trade policy in it.

Ajay Chhibber

Julian L. Simon

The Economic Consequences of Immigration

Basil Blackwell (published in association with the Cato Institute), Cambridge, MA, USA, 1989, 402 pp., $39.95.

This book does an admirable job of summarizing the existing theoretical and empirical literature on the economic impact of immigration. It also presents a substantial amount of data from a number of countries on immigration and the characteristics of immigrants, and critically evaluates the policy debate on immigration in the United States. As such, the book will be welcomed by economists and other social scientists, as well as by the informed public and policymakers.

The author persuasively argues the case for immigration. The key to their economic contribution is the age composition of immigrants: immigrants tend to arrive during the prime of their working lives, have desirable economic behavior characteristics—such as high saving rates and productivity—and make net contributions to the public Treasury. As a result, both immigrants' and natives' incomes are better off compared to what they would have been in the absence of immigration.

There are, of course, costs associated with immigration, particularly illegal immigration that is geographically concentrated. The author argues that these are largely short-run costs that, eventually, are clearly outweighed by the benefits of immigration. Although the majority of readers may accept this, a more balanced presentation would have included a fuller discussion of the short-run costs of immigration to receiving communities.

The author also takes issue with many popular misconceptions about immigrants: immigration to the United States is now low by historical standards; immigrants have about as much education as natives; and immigrants do not have a higher propensity to commit crime, to be unemployed, or to propagate. In addition, there is no evidence that aggregate unemployment is caused by immigrants. Simon clearly relishes debunking what often passes for conventional wisdom in the public debate. This is apparent in the argumentative tone of some chapters, which contrasts with the academic presentation in most of the book.

The effects of immigration on the source countries is discussed in one chapter. Many readers, particularly those from outside the United States, will find this treatment of the economic consequences of emigration somewhat cursory. At the theoretical level, it would have been interesting to consider the dynamics of large-scale emigration—what are the mechanisms that, over time, lead to the reduction of emigration to sustainable levels? Similarly, a discussion on the experience of specific source countries would have added balance to a book that, in the end, largely focuses on the United States.

David Coe

Pamela S. Falk (editor)

Inflation: Are We Next?

Hyperinflation and Solutions in Argentina, Brazil, and Israel

Lynne Rienner Publishers, Boulder, CO, USA, 1990, ix + 166 pp., $22.

This book contains six essays on the experience of Argentina, Brazil, and Israel with their heterodox anti-inflation programs of the mid- to late-1980s, as well as a study of the factors affecting inflation performance in the United States in the 1980s. The contributors have wide experience in government service, international finance, and academia, and include Luiz Bresser Pereira, Minister of Finance in Brazil in 1987, Emanuel Sharon, former Director General of the Ministry of Finance in Israel, and Santiago O. del Puerto, former Argentine finance repre-

sentative to the United States and Canada.

The essays on Argentina, Brazil, and Israel provide historical background and political insight to the anti-inflation programs of these countries and update the assessment of these programs presented in earlier studies (for example, those included in "Inflation Stabilization—The Experience of Israel, Argentina, Brazil, Bolivia, and Mexico," reviewed in *Finance & Development*, June 1990). The paper on the US experience offers a comprehensive explanation of why the fiscal problem in the United States has not yet produced the kind of inflation experienced in many countries of Latin America and Israel; at the same time, it warns of the potential problems that may arise if the fiscal problem is not addressed and the world continues to accumulate ever-increasing amounts of US debt.

However, the book represents a somewhat loose collection of essays that does not really draw on the distinctive institutional features and inflation history of Latin American countries and Israel in addressing the question in the book's title "Are We Next" (where the "We" refers to the United States). The essays are convincing in arguing that a major and lasting improvement in the fiscal situation in Argentina, Brazil, and Israel was a necessary condition for achieving success in the battle against inflation (and that failure in this area was ultimately responsible for the failure of the heterodox programs in Argentina and Brazil). But the essays are less incisive in discussing whether in the absence of competitive factor and goods markets in these countries, success on the fiscal front may not have been a sufficient condition for a lasting reduction in inflation.

One of the essays on Israel attributes inflation in part to the struggle over the distribution of income, and Luiz Bresser Pereira argues that a key factor in the failure of the Brazilian program was the absence of the kind of political and social pact the Israelis were able to secure. This leaves unexplained why many countries are able to contain inflation with indirect macroeconomic controls without the need for social or political pacts to decide the distribution of income.

Brian Stuart

BOOKS *in brief*

Vito Tanzi

Public Finance in Developing Countries

Edward Elgar, Brookfield, VT, USA, 1990, v + 249 pp., $54.95.

This is a very readable and lively book. Tanzi's wide exposure as Director of the IMF's Fiscal Affairs Department has helped shape many of his guidelines and principles, combining theory with a lot of practical experience. The 15 self-contained chapters, many of which have been published before, cover issues of public finance within a macroeconomic framework relevant to developing countries. Tanzi recognizes that often policies that are theoretically right may prove to be doubtful when applied. In fact, the outcome hardly resembles the initial idea. This implies that recommendations must take into account the limitations involved in implementation. The book is divided into three parts: Part 1 deals with the role of government in the economies of developing countries. Part 2 covers issues of stabilization and growth, highlighting the link between macroeconomic policies and the level of taxation. Part 3 focuses on issues of taxation and the requirements for successful tax reform. This is a highly useful addition to the literature in the field and will benefit both academics and policymakers.

De Anne Julius and Afsaneh Mashayekhi

The Economics of Natural Gas

Oxford University Press, New York, NY, USA, 1990, xiv + 177 pp., $49.

Natural gas has been discovered in over 50 developing countries, but is not being exploited at near its potential. At the same time, the development of natural gas has become increasingly attractive on economic grounds (with the new low capital cost and high energy efficiency turbine technology) and on environmental grounds (with much lower emissions than practical alternative fuels). There are a variety of reasons for the slow development of gas in developing countries. They revolve around complex issues relating to legislation, regulation, ownership, institutional structure, pricing, fiscal regimes, financing, information flows, etc. This book provides a comprehensive survey of these issues. It is mostly based on theoretical and case study work undertaken by the World Bank's energy staff during the 1980s. Decisionmakers and analysts in need of a comprehensive but practical framework for addressing natural gas development issues in developing countries will find this book mandatory reading.

Anthony Lake and contributors

After the Wars

Reconstruction in Afghanistan, Indochina, Central America, Southern Africa, and the Horn of Africa

Transaction Publishers, Rutgers—The State University, New Brunswick, NJ, USA, 1991, x + 197 pp., $24.95 (paper $15.95).

This timely volume from the Overseas Development Council of the United States brings attention on the benumbing after effects of conflicts and the need for international efforts to rebuild war-torn economies within countries and devastated regions. The individual case studies provide graphic evidence of the damage to individual economies and the efforts made to revive them. They also highlight the strong economic undertones of political conflicts and emphasize need for coordinated external assistance, largely through currently established agencies, to sustain peace and help nations rebuild.

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How do Readers Evaluate FINANCE & DEVELOPMENT?

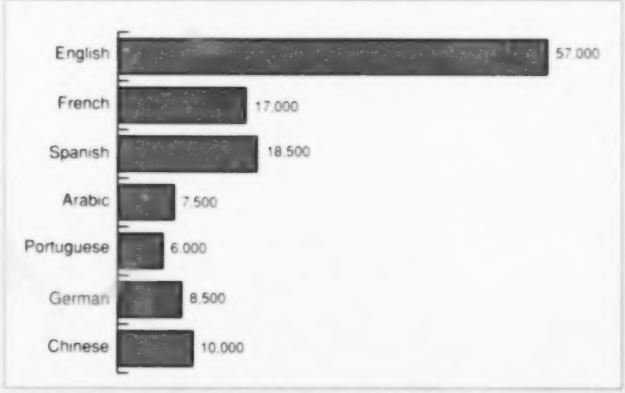
A report on our international readership survey

We completed an international readership survey late in 1990 in which readers were asked to evaluate *Finance & Development*, let us know more about themselves and their reading habits, and respond to various questions dealing with the contents, design, and current or future publishing policy of this journal. This survey was an important element in our continuing dialogue with our worldwide readership and supplements the feedback from the more than 4,500 letters that we receive each quarter. This was the third major readership survey conducted by this journal.

The survey was conducted by an independent Washington area firm, The Wirthlin Group, with logistical and translation help by IMF staff. Approximately 3,000 readers representing six language editions (English, Arabic, French, German, Portuguese, and Spanish) were selected from our computerized mailing lists (the Chinese mailing list is not maintained on our master computer files and, therefore, those readers were not included in the survey). A detailed questionnaire, accompanied by a stamped return envelope, was mailed to these readers. Roughly 41 percent of them replied by the cut-off date—a high rate of return on such surveys.

Here are some of the results of the readership survey, as well as other relevant information on the journal and its readership. Because of space limitations, we cannot share detailed results with our readers, nor is it possible to present the many useful comments relating to the business side of the publication, except to state that readers prefer advertising revenues and cosponsorship by local or regional institutions over charging to cover the costs of providing the journal to our worldwide audience.

Total circulation and audience, March 1991



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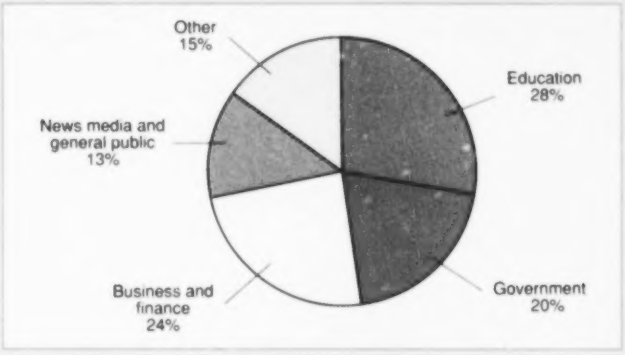

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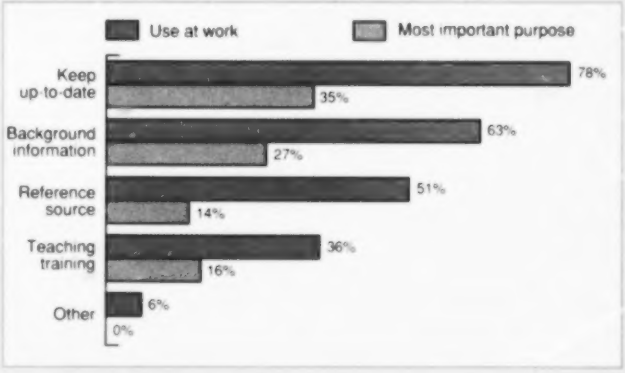

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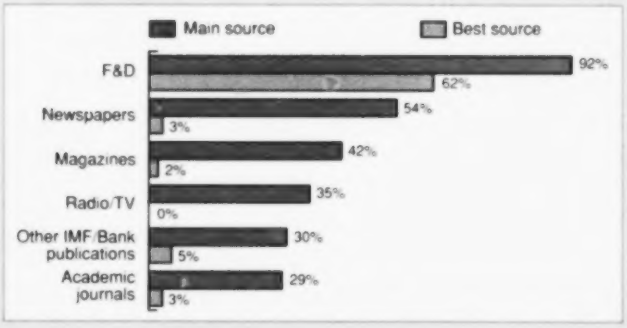

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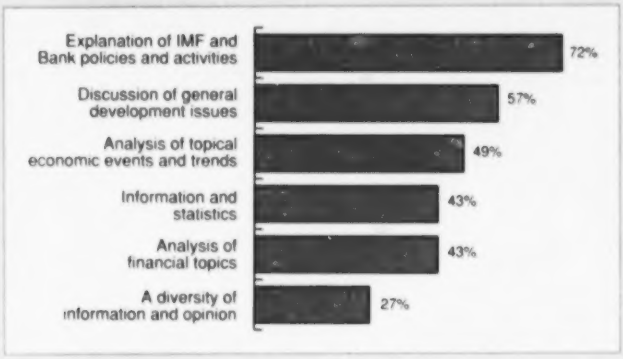

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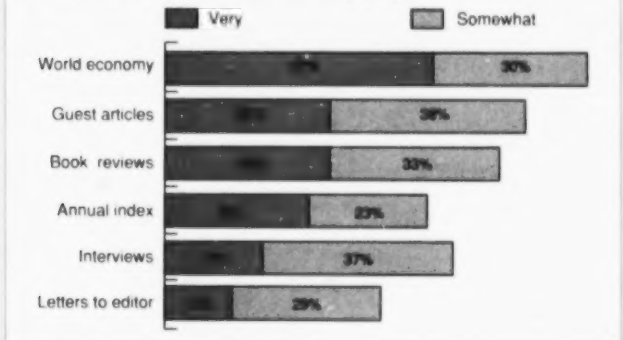

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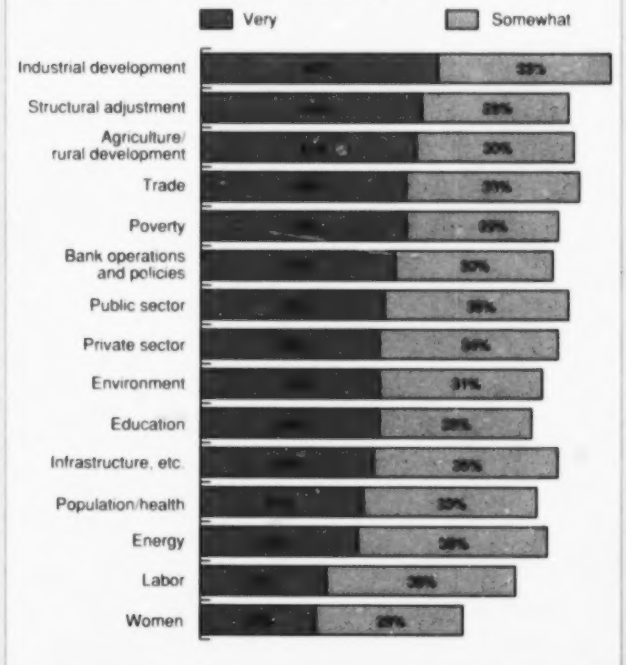

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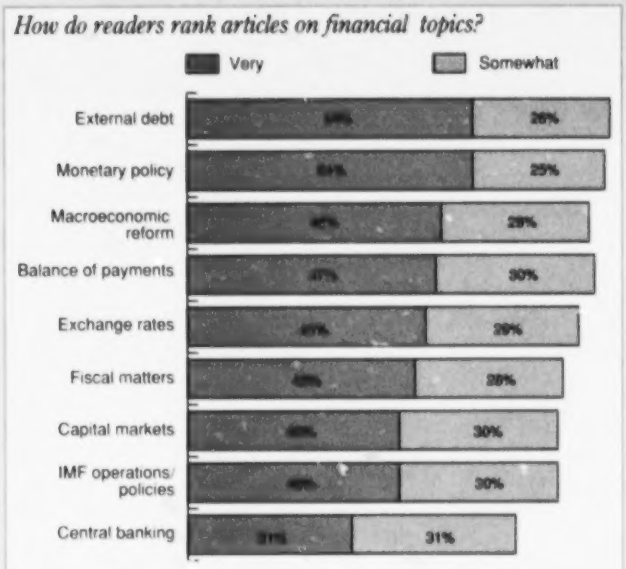

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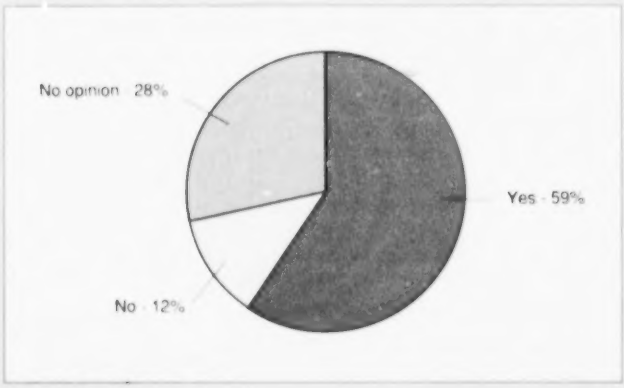

And finally, a word about us

This journal comes to you each quarter as a result of the combined efforts of our authors, advisors (who comment on articles in the editing phase), colleagues in the World Bank and the IMF (who help with translation, graphics, and production details), and a small team in the *Finance & Development* Office. In addition to the staff listed on our masthead, there are a few other colleagues who help ensure that all the administrative, production, and circulation-related details are managed smoothly so that all seven editions of the journal come out relatively close to each other during the month of issue and with the fewest possible errors. These colleagues are: Martha Bonilla: Editorial Assistant, responsible for production coordination; Jessie Hamilton, responsible for mailing lists and responses to readers' mail; and June Lavin, responsible for administrative arrangements and some production work. In addition, we rely heavily on our overseas production centers to bring you the various language editions.

The ultimate test of any journal is how readers respond to it. We are grateful for the wealth of information that readers provided us through this latest readership survey. Over time, we will work on improving the journal to meet or even exceed your expectations.

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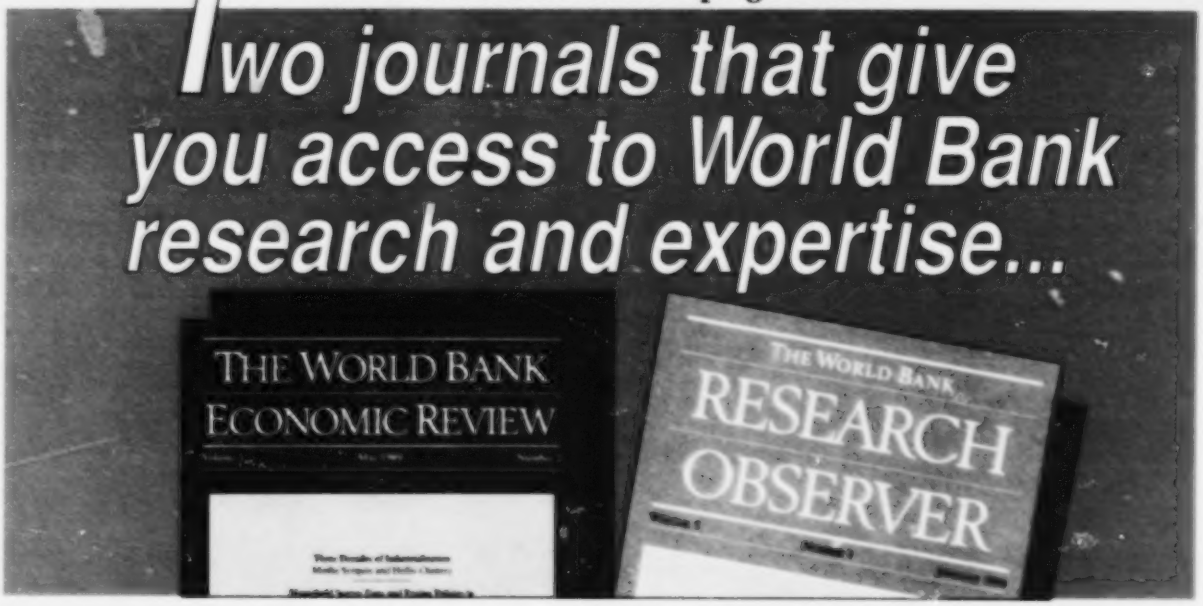

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